

S-Series Panel PC

AMD Geode LX 800 3.5" SBC, Ultra Low Power, Fanless Design with CPU, UXGA/LCD, Gigabit Ethernet and Mini-PCI Interface.

USER'S MANUAL Version 1.3

FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS :

- THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.
- THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

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Packing List

Before using this Panel PC, please make sure that all the items listed below are present in your package :

- Panel PC
- Power adapter
- Power cord
- Keyboard and Mouse Y cable
- CD-ROM disc with Driver Utility and User's Manual
- Mounting of screws (Option)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Winmate Customer Service

Winmate provide service guide for any problem as follow steps : First, visit the Winmate website at <http://www.winmate.com> to find the update information about the product. Second, contact with your distributor, sales representative, or Winmate 's customer service center for technical support if you need additional assistance. You may have the following information ready before you call :

- Product serial number
- Peripheral attachments
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from Winmate's engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

Safety Precautions◆ **Warning!**

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

◆ **Caution!**

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Safety and Warranty

1. Please read these safety instructions carefully.
2. Please keep this user's manual for later reference.
3. Please disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
 - A. The power cord or plug is damaged.
 - B. Liquid has penetrated into the equipment.
 - C. The equipment has been exposed to moisture.
 - D. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - E. The equipment has been dropped and damaged.
 - F. The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.**

Revision History

Version	Date	Note	Author
1.0	2006.05.01	✓ First Version	Wayne Lin
1.1	2006.09.20	✓ Revise the specification of Ethernet and Watchdog. ✓ For A830 ver.110	Wayne Lin
1.2	2006.10.31	✓ Revise the specification for A830 ver. 120 ✓ Update new BIOS setting for ver. 00F	Wayne Lin
1.3	2006.11.27	✓ Update new BIOS setting for ver. 00I	Wayne Lin

Contents

Chapter 1	General Information.....	1
1.1	Introduction.....	2
1.2	System Specifications.....	3
1.3	LCD Specifications.....	4
1.4	Mechanical Drawing.....	5
1.5	Input / Output Devices.....	17
1.6	Mounting.....	18
Chapter 2	System Installation.....	19
2.1	HDD Installation.....	21
2.2	Memory Module Installation.....	22
2.3	I/O Equipment Installation.....	23
2.4	Running the BIOS Setup Program.....	24
Chapter 3	The Engine of the PPC.....	25
3.1	Introduction.....	26
3.2	Features.....	26
3.3	Jumpers and Connectors List.....	27
3.4	Clear CMOS.....	31
3.5	LVDS Voltage Select.....	31
3.6	RS 232 / RS 422 / RS 485 Selector.....	32
Chapter 4	Ethernet Interface.....	33
4.1	Introduction.....	34
4.2	Installation of Ethernet Driver.....	34
4.3	Further Information.....	36
Chapter 5	VGA Setup.....	37
5.1	Introduction.....	37
5.2	Installation of VGA Driver.....	37
5.3	Further Information.....	41

Chapter 6	AUDIO Setup.....	42
6.1	Introduction.....	43
6.2	Installation of Audio Driver.....	44
6.3	Further Information.....	46
Chapter 7	BIOS Setup.....	47
7.1	Starting Setup.....	48
7.2	Award BIOS Setup.....	49
7.3	Standard CMOS Features Setup.....	51
7.4	Advanced BIOS Features Setup.....	53
7.5	Advanced Chipset Features Setup.....	55
7.6	Integrated Peripherals.....	57
7.7	Power Management Setup.....	58
7.8	PNP/PCI Configuration Setup.....	59
7.9	PC Health Status.....	59
7.10	Load Fail-Safe Defaults.....	60
7.11	Load Optimized Defaults.....	60
7.12	Supervisor / User Password Setting.....	61
7.13	Save and Exit Setup.....	62
7.14	Exit Without Saving.....	63
Chapter 8	Touch Screen.....	64
8.1	Introduction.....	65
8.2	Installation of Drive for Elo AccuTouch ..	65
8.3	Installation of Drive for Premier Touch...	68
Appendix A	Pin Assignments.....	72

Figures

Figure 1.1	Product Overview.....	2
Figure 1.2	6.4 " Mechanical Rear View	5
Figure 1.3	6.4 " Connector Description	5
Figure 1.4	6.4 " Mechanical Drawing	6
Figure 1.5	6.5 " Mechanical Rear View	7
Figure 1.6	6.5 " Connector Description	7
Figure 1.7	6.5 " Mechanical Drawing	8
Figure 1.8	8.4 " Mechanical Rear View	9
Figure 1.9	8.4 " Connector Description	9
Figure 1.10	8.4 " Mechanical Drawing	10
Figure 1.11	10.4 " Mechanical Rear View	11
Figure 1.12	10.4 " Connector Description	11
Figure 1.13	10.4 " Mechanical Drawing	12
Figure 1.14	12.1 " Mechanical Rear View	13
Figure 1.15	12.1 " Connector Description	13
Figure 1.16	12.1 " Mechanical Drawing	14
Figure 1.17	15 " Mechanical Rear View	15
Figure 1.18	15 " Connector Description	15
Figure 1.19	15 " Mechanical Drawing	16
Figure 1.20	Input / Output Devices.....	17
Figure 2.1	DVD ROM Drawing.....	23
Figure 3.1	Locating Jumpers and Connectors (front side)	30
Figure 3.2	Locating Jumpers and Connectors (rear side).	31
Figure 7.1	BIOS Setup Main Menu.....	50
Figure 7.2	Standard CMOS Features.....	52
Figure 7.3	Advanced BIOS Features.....	54
Figure 7.4	Advanced Chipset Features.....	56
Figure 7.5	Integrated Peripherals.....	58
Figure 7.6	Power Management Setup.....	60

Figure 7.7	PC Health Status.....	62
Figure 7.8	Supervisor / User Password Setting.....	64
Figure 7.9	Save and exit setup screen.....	65
Figure 7.10	Exit without Saving setup screen.....	66

Tables

Table 1.1	LCD Specifications.....	4
Table 1.2	Input / Output Devices.....	17
Table 3.1	Jumpers.....	27
Table 3.2	Connectors.....	28
Table 3.3	Clear CMOS (J5).....	31
Table 3.4	LVDS Voltage Select (JP10).....	31
Table 3.5	RS 232 / 422 / 485 Selector (JP13).....	32
Table 3.6	RS 232 / 422 / 485 Selector (JP14).....	32

CAP T E R 1

General Information

This chapter includes the PPC background information.

Sections include:

- Introduction
- System Specification
- LCD Specification
- Mechanical Drawing
- Input / Output Devices
- Mounting

1.1 Introduction

The Panel PC is high performance, fanless, low power PC with AMD CS 5536 chipset combine with a TFT LCD Panel. The AMD LX 800 fanless, high performance CPU delivers the most performance per watt available in the market. The Panel PC is designed to satisfy most of the applications in the industrial market, such as POS, KIOSK, Industrial Automation, Programmable Control System, and HMI. It's a PC-based system with DDR SDRAM, VGA/LCD controller, multi-COM port interface, and on-board Gigabit Ethernet. The Panel PC supports one Mini-PCI, one CF socket for function upgrade. It is a compact design to meet the demanding performance requirements of today's business and industrial applications.

Panel PC combines a motherboard, the digital display using TFT LCD within a compact chassis. Panel PC offers any option to add on HDD and Touchscreen as a matter of user's preference. The compact design and extensive function make the Panel PC a dedicated system for all kinds of application.



Figure 1.1 Product Overview

1.2 System Specifications

- ✧ CPU: AMD Embedded LX-800 Micro-processor,
 - Ultra-low power about 3.9Watts
- ✧ Chips set: AMD CS5536 Companion Device
- ✧ BIOS : AWARD Flash memory
- ✧ System memory: One 200-pin SODIMM socket accepts up to 1GB SDRAM
- ✧ Enhanced IDE interface : Supports up one channel two EIDE devices
 - BIOS auto-detected for DMA33 mode(ATA-4)
 - One 44pins hard disk interface
- ✧ Serial Ports:
 - One serial RS-232 port
 - Three serial RS-232 pin headers, one for RS-232/422/485 jumper.
- ✧ Keyboard/mouse connector: Mini-DIN connector supports PS/2 interface
- ✧ USB interface : Two USB ports onboard, two USB pin header
- ✧ Video interface:
 - Chipset : LX-800 including
 - Display type: Support CRT and TFT LCD displays
 - CRT and flat panel can display simultaneously
 - Panel resolution support up to 1280 x 1024 @18bpp or 24bpp
- ✧ Audio function:
 - Chipset: Realtek ALC203 AC97 compliant interface
 - Audio interface: Microphone in, CD audio in, Earphone out
- ✧ Ethernet interface
 - Chipset: Realtek RTL8110S
 - Ethernet interface : PCI 10/100/1000 Mbps Ethernet protocol compatible
 - Connection: On-board RJ-45 connector
- ✧ Mechanical and environmental
 - Dimensions (L x W) : 145 mm x 102 mm(5.9" x 4.2") (Mainboard)
 - Power supply voltage: +8 ~ +19Volts DC-input
 - Power consumption (typical): +19V/5A@70Watts
 - Operating temperature : 0 ~ 60 ° C(32 ~ 140 ° F)
 - Operating Humidity: 0% ~ 90% Relative humidity, non-condensing

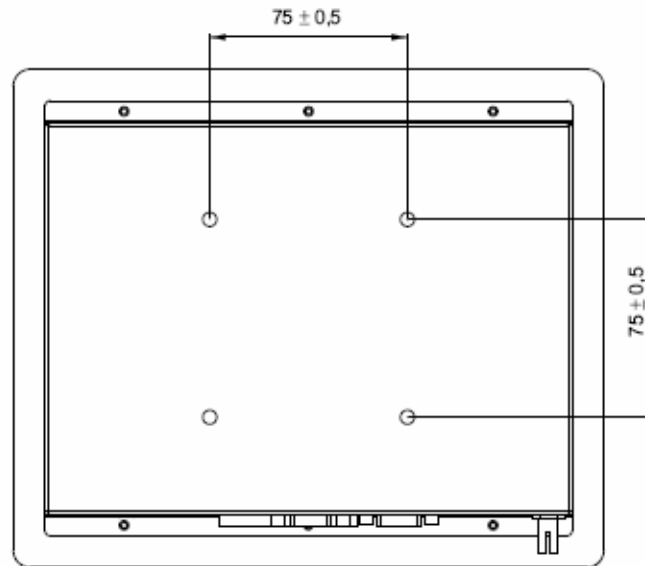
1.3 LCD Specifications

Size	Item	Resolution (Recommended)	Display Color
	R06A83S- XXP1	640x480	262144 (6bit / colors)
	R06A83S- XXM1	640x480	260K
	R08A83S- XXM1	640x480	262144 (6bit / colors)
	R08A83S- XXU1	800x600	262144 (6bit / colors)
	R08A83S- XXT1	800x600	262144 (6bit / colors)
	R10A83S- XXP1	800x600	262144 (6bit / colors)
	R10A83S- XXP3	640x480	260K
	R10A83S- XXU1	800x600	262144 (6bit / colors)
	R10A83S- XXM1	640x480	262144 (6bit / colors)
	R10A83S- XXH1	1024x768	262144 (6bit / colors)
	R12A83S- XXL1	800x600	262,144 (6bit/colors)
	R12A83S- XXM1	800x600	262144 (6bit / colors)
	R12A830S- XXM2	1024x768	262,144 (6bit/colors)
	R15A83S- XXC3	1024x768	16.2M (6bit+FRC)
	R15A83S- XXM4	1024x768	16.2M (6bit+FRC)
	R15A83S- XXA1	1024x768	262,144 (6bit/colors)
	R17A83S- XXM1	1280x1024	16.2M (8bit / colors)
	R19A83S- XXM1	1280x1024	16.2M (8bit / colors)

Table 1.1 LCD Specifications

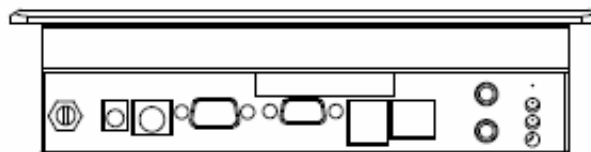
1.4 Mechanical Drawing

1. R06A83S-PMP1



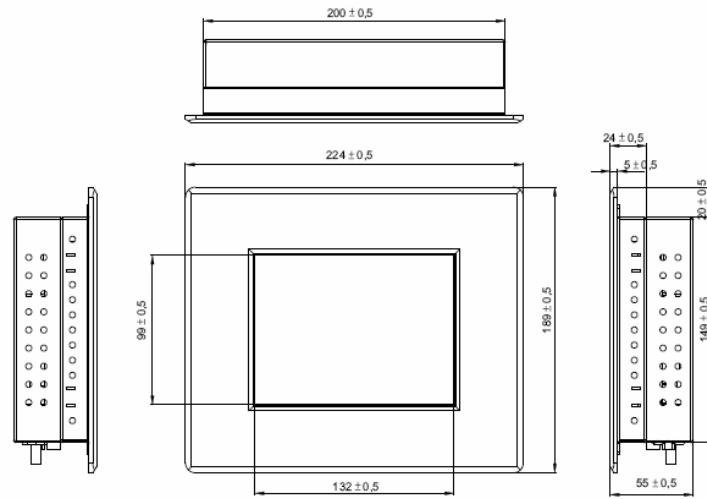
REAR VIEW

Figure 1.2 6.4 “ Mechanical Rear View



CONNECTOR DESCRIPTION

Figure 1.3 6.4 “ Connector Description

**DRAWING****Figure 1.4 6.4 “ Mechanical Drawing**

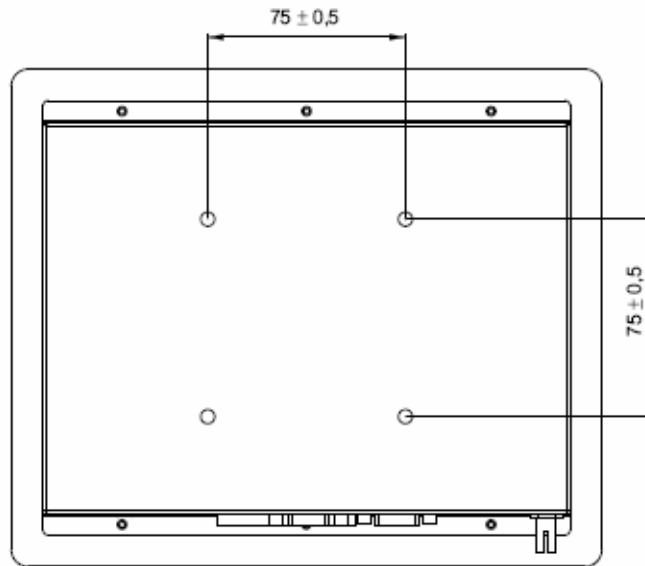
2. R06A83S-PMM1**REAR VIEW**

Figure 1.5 6.5 “ Mechanical Rear View

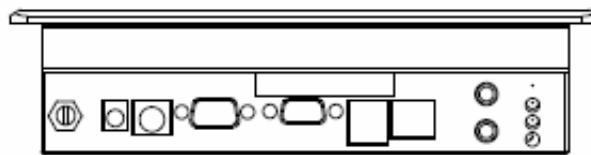
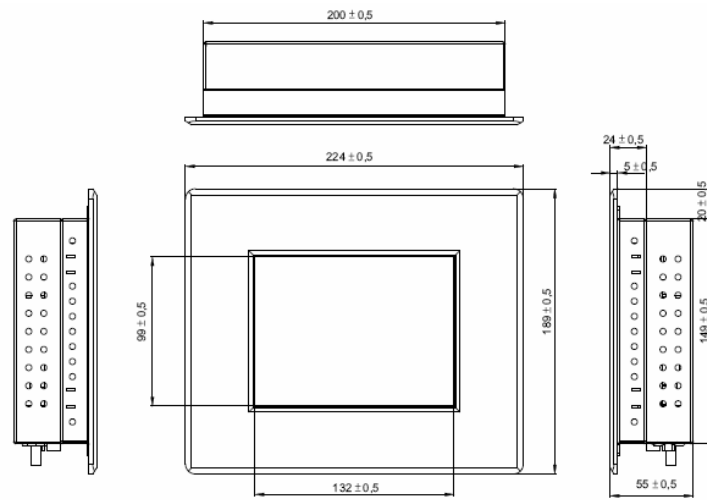
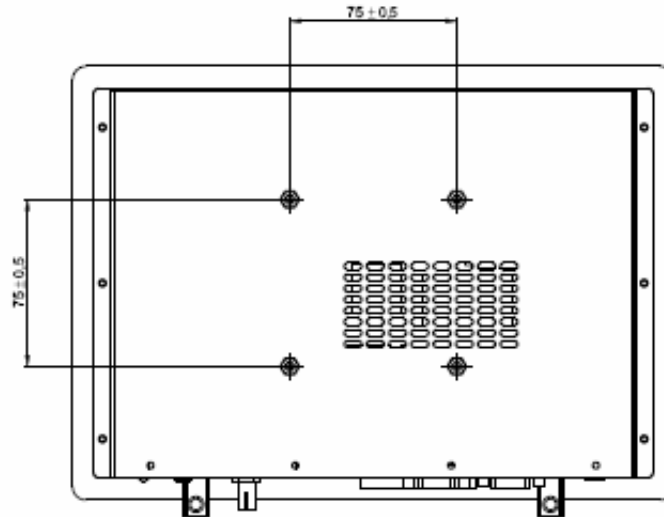
**CONNECTOR DESCRIPTION**

Figure 1.6 6.5 “ Connector Description

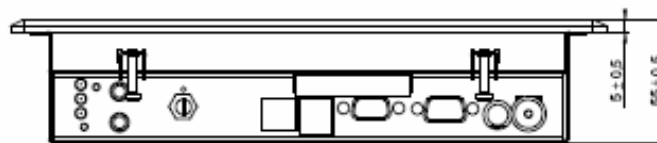
**DRAWING****Figure 1.7 6.5 “ Mechanical Drawing**

3. R08A83S-PMM1 / R08A83S-PMU1 / R08A83S-PMT1



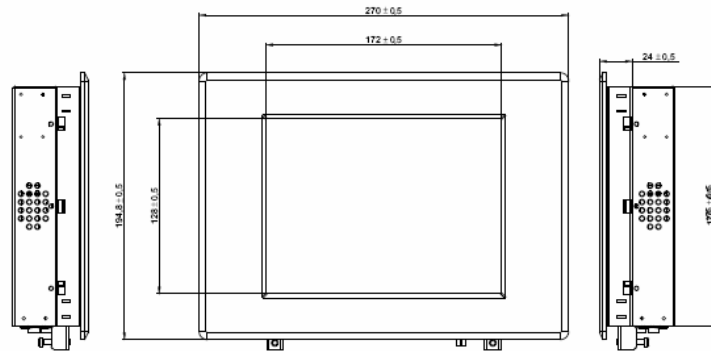
REAR VIEW

Figure 1.8 8.4 “ Mechanical Rear View



CONNECTOR DESCRIPTION

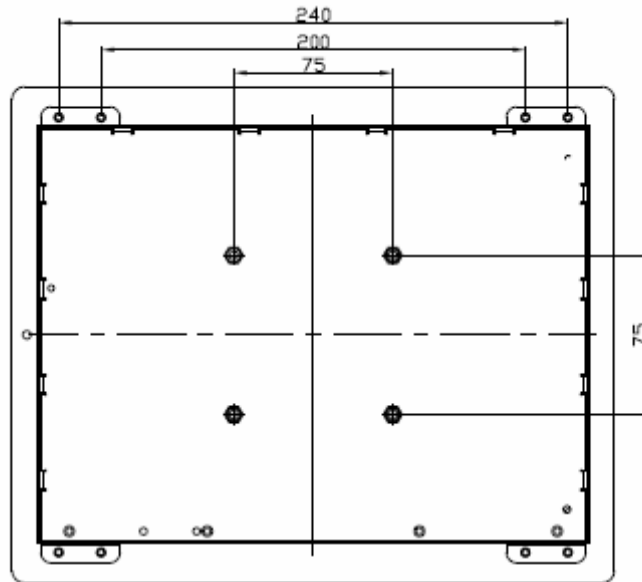
Figure 1.9 8.4 “ Connector Description



DRAWING

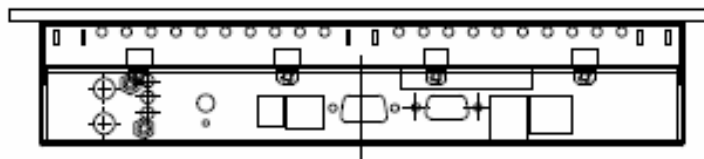
Figure 1.10 8.4 “Mechanical Drawing

4. R10A83S-PMP1 / R10A83S-PMP3 / R10A83S-PMU1 /
R10A83S-PMM1 / R10A830S-PMH1



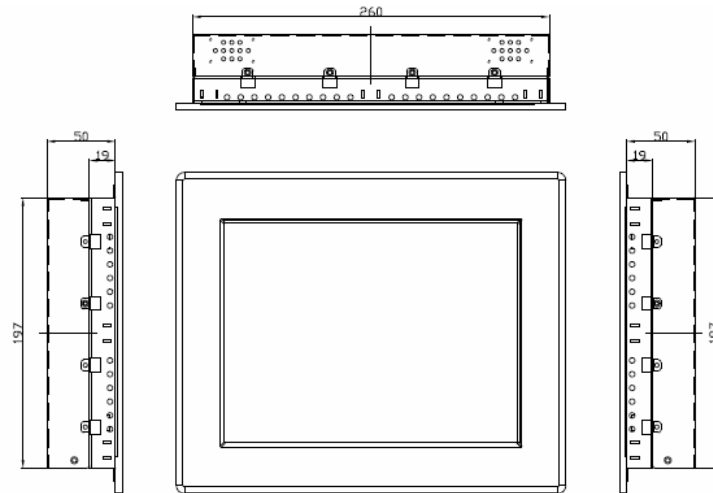
REAR VIEW

Figure 1.11 10.4 “Mechanical Rear View



CONNECTOR DESCRIPTION

Figure 1.12 10.4 “Connector Description



DRAWING

Figure 1.13 10.4 “ Mechanical Drawing

5. R12A83S-PML1 / R12A83S-PMM1 / R12A83S-PMM2

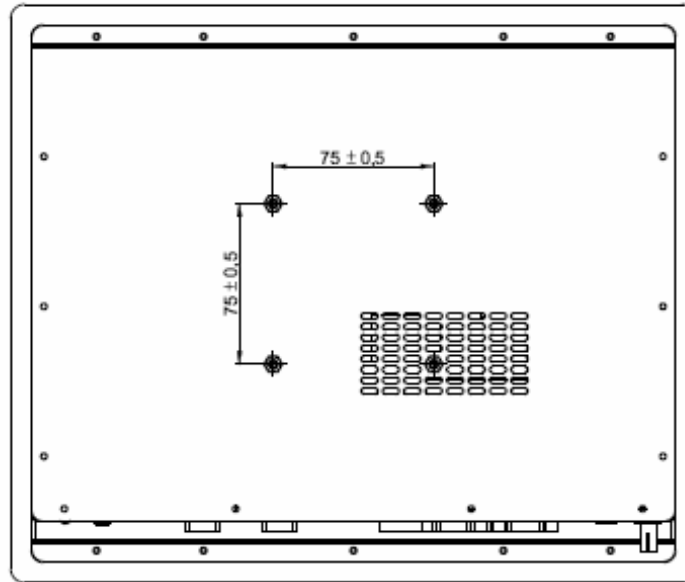
**REAR VIEW**

Figure 1.14 12.1 “Mechanical Rear View

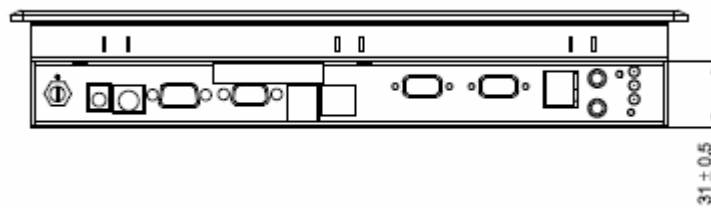
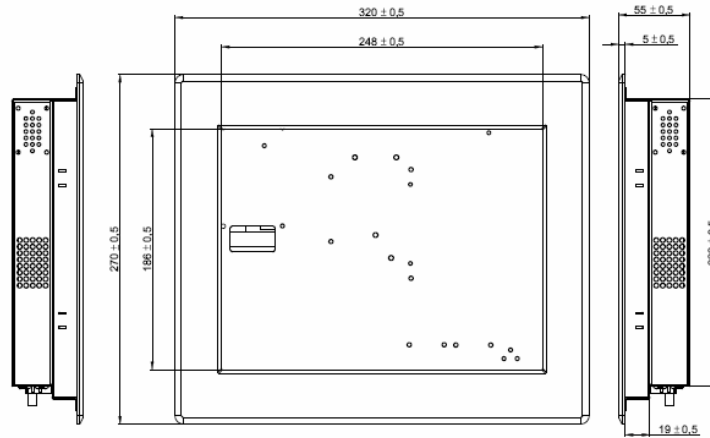
**CONNECTOR DESCRIPTION**

Figure 1.15 12.1 “Connector Description

**DRAWING****Figure 1.16 12.1 “ Mechanical Drawing**

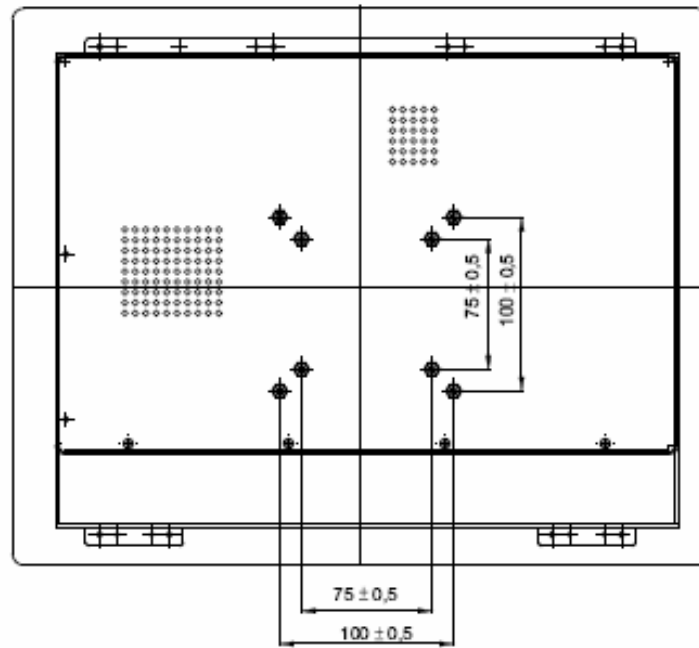
6. R15A83S-PMC3 / R15A83S-PMM4 / R15A83S-PMA1**REAR VIEW**

Figure 1.17 15" Mechanical Rear View

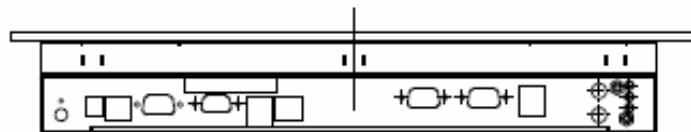
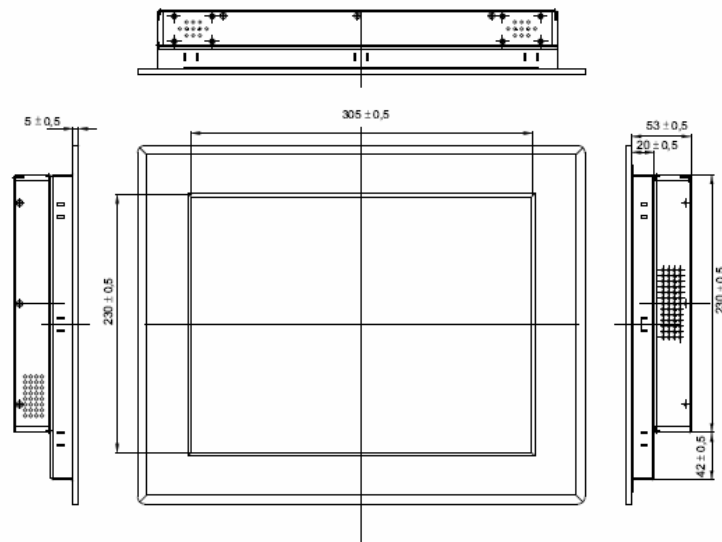
**CONNECTOR DESCRIPTION**

Figure 1.18 15" Connector Description

**DRAWING****Figure 1.19 15" Mechanical Drawing**

1.5 Input / Output Devices

The following figure shows the I/O arrangement of the Panel PC. The backside of the chassis contains most of the connectors.

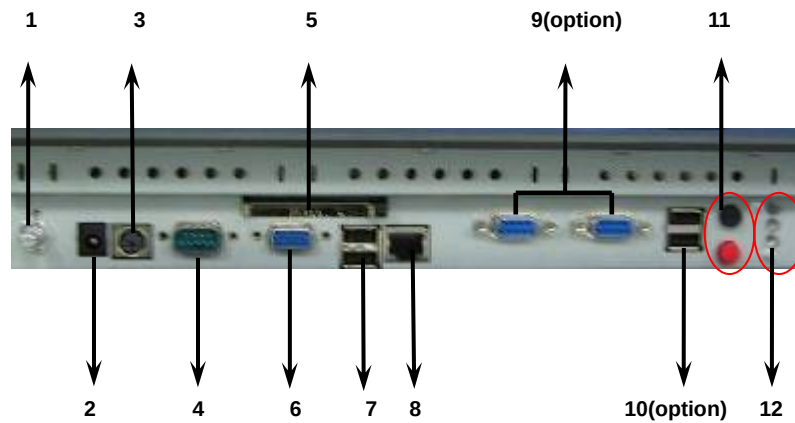


Figure 1.20 Input / Output Devices

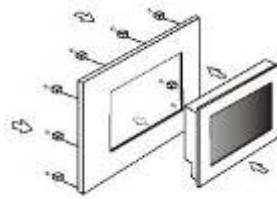
1	VR Control	Use VR Control to adjust the PPC Display Brightness.
2	DC-in jack	Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.
3	PS/2 Mini-DIN	Mini-DIN PS/2 Connector plus Y cable to connect Keyboard and Mouse.
4 & 9	COM port	9-pin male /female Serial Port connector that can attach a serial mouse or other serial devices directly to the port.
5	CF socket	Put CF card into CF socket for external data use .
6	VGA port	Use VGA port to connect an external Display.
7&10	USB port	USB-compatible devices can be plugged directly into the USB 2.0 port.
8	RJ-45 port	Connect a network cable to the standard RJ-45 port and get connection to the Local Area Network (LAN).
11	Power On / Off / Reset	Put on/off (Block) and reset (Red) the power on your computer. The Power hot key is located in the right of upward view in the Panel PC.
12	LED Light	LED light shows Power, Heater (Optional), and HDD situation.

Table 1.2 Input / Output Devices

1.6 Mounting

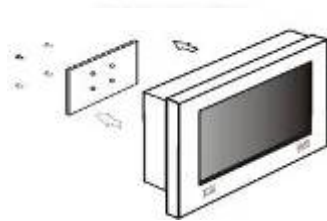
The Panel PC is suitable for most of the industrial / commercial application, by any kind of mounting approach. Three main mounting approach, **Panel Mount / Chassis / Open Frame**, are very easy for user to install the Panel PC. As the pictures guided:

1. Panel Mount:



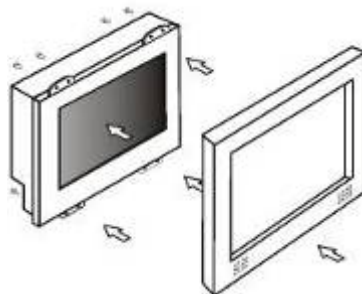
Fix the supporter to the wall, and fasten the Panel PC to the supporter by easy mounting kits.

2. Chassis:



Fix the Panel PC with four screws (standard VESA), and fasten to the wall with other four screws.

3. Open Frame:



Fix the Panel PC to the supporter with mounting kit, and affix the front frame to the panel with screws.

CAPTER 2

System Installation

This chapter includes hardware installation, DVD-Rom installation to the Panel PC.

Sections include:

- HDD Installation
- Memory Module Installation
- I/O Equipment Installation
- Running the BIOS Setup Program

Chapter 2 System Installation

The PPC is a PC-based industrial computer that is housed in aluminum alloy front panel and heavy-duty steel chassis. And the following section will show the HDD and DVD-ROM installation process.

◆ **Warning!**



The users must make sure to study all safety notifications before you begin the installation of the PPC. Do not remove the rear cover until you have verified that no power is flowing within the PPC. Power must be switched off, and the power cord must be disconnected. Every time you service the PPC, you should be aware of this.

2.1 HDD Installation

The PPC can have one Integrated Device Electronics(IDE)connector for 2.5" or 3.5" HDD, the user can install HDD easily by removing the side cover of HDD drive bay.

When installing the IDE HDD device, please follow the steps below :

Step.1. Remove the screws and the PPC back cover.

Step.2. Fasten the HDD to the drives shelf by 6 screws.

Step.3. Use the IDE cable connected from the HDD to the IDE pin connector.
Make sure that the IDE Hard Drive and the cable corresponds to pin 1.



Step.4. Fasten screws on the side cover of the PPC.

◆ **Warning!**



A 、 Must make sure the connection corresponds to pin 1. The HDD will be damaged with the improper connection.

B 、 When the user follow these steps, the user must be careful not to damaging the CPU board.

2.2 Memory Module (SODIMM) Installation

The Panel PC provides one 200-pin SODIMM slot. The socket supports up to 1GB DDR 400 SDRAM. When installing the Memory device, please follow the steps below :

Step.1. Firmly insert the SODIMM at an angle into its slot. Align the SODIMM on the slot such that the notch on the SODIMM matches the break on the slot.



Step.2. Press downwards on SODIMM until the retaining clips at both ends fully snap back in place and the SODIMM is properly seated.



◆ Caution!



The SODIMM only fits in one correct orientation. It will cause permanent damage to the development board and the SODIMM if the SODIMM is forced into the slot at the incorrect orientation.

2.3 I / O Equipment Installation

2.3.1 PS/2 Keyboard and PS/2 Mouse

The PPC provides a Mini-DIN connector supports PS/2 interface. Mini-DIN connector supports Keyboard and Mouse through Y cable. **Please plug keyboard or mouse directly with Y cable.** In other cases, especially in embedded applications, a mouse is not used. Therefore, the BIOS standard setup menu allows you to select* "All, But Keyboard" under the "Halt On". This allows no-keyboard operation in embedded system applications without the system halting under POST.

2.3.2 Audio Equipment

The AC'97 capabilities are provided by a Realtek ALC203 chip supporting digital audio outputs. The onboard ALC203 is a 20-bit DAC and 18-bit ADC supporting full-duplex AC'97 2.3 compatible stereo audio CODEC for multimedia, including host/soft audio based designs. The audio interface includes two jacks: microphone-in and line-out.

2.3.3 Serial COM ports

One RS-232 ports with 16C550 UART (or compatible) with 16-byte FIFO buffer. Three optional COM ports support RS-232. When an optional touch-screen is ordered with PPC, serial com port can connect to a serial or an optional touch-screen. One optional COM port supports RS232/422/485 choice through jumper setting.

2.3.4 Ethernet Equipment

The PPC is equipped with Realtek RTL8110s chipset which is fully compliant with the PCI 10/100/1000 Mbps Ethernet protocol compatible. It is supported by major network operating systems. The Ethernet port provides a standard RJ-45 jack. The boot ROM BIOS files are combined with system BIOS, which can be enabled/disabled in the BIOS setup.

2.3.5 USB ports

Four USB (Two is optional) device may be connected to the system though an adapter cable. Various adapters may come with USB ports. USB usually connect the external system to the system. The USB ports support hot plug-in connection. Whatever, you should install the device driver before you use the device.

2.3.6 External VGA

The Panel PC has one VGA port that can be connected to an external CRT/ LCD monitor. Use VGA cable to connect to an external CRT / LCD monitor, and connect the power cable to the outlet The VGA connector is a standard 15-pin D-SUB connector.

2.4 Running the BIOS Setup Program

Panel PC is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to change system configuration information by using the Panel PC's BIOS (Basic Input-Output System) setup program, such as the date and time or your hard drive. The setup program is stored in read-only memory (ROM). It can be accessed either when you turn on or reset the Panel PC, by using the "Delete" key on your keyboard immediately after starting your computer.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, computer will be displayed an error message on screen, and you will be prompted to run the setup program.

If you want to change the setup of BIOS, refer to Chapter 4 for more detailed information.

CAPTER 3

The Engine of the PPC

Sections include:

- Introduction
- Features
- Jumpers and Connectors List
- Setting Jumpers and Connectors

Chapter 3 The Engine of the PPC

3.1 Introduction

The Panel PC is always a reliable SBC (Single Board Computer) based on the AMD LX 800 500MHz CPU. The PPC offers some built-in devices in a small 3.5"(146mm x 101mm) form factor., including network communications, a VGA / LCD controller, a SODIMM DDR socket.

The Panel PC also supports one DDR400 SDRAM up to 1GB memory and a Mini-PCI internal socket for function upgrade. The motherboard offers on-board devices, including IDE interface with Ultra DMA33, four serial ports (RS-232 x 3 and RS-232/422/485 x 1), an Ethernet interface, audio interface, CF socket, and a PS/2 keyboard/mouse interface. The VGA / LCD display controller can adjust LCD screen resolutions up to 1028 x 1024 x 16.7M colors. The display BIOS simply can change by a single Flash chip.

The Panel PC also offers some applications that are longer MTBF and faster data access than industrial applications. It also offers the watchdog timer that ensures the system will be reset when it stops by a EMI problem or program bug.

3.2 Features

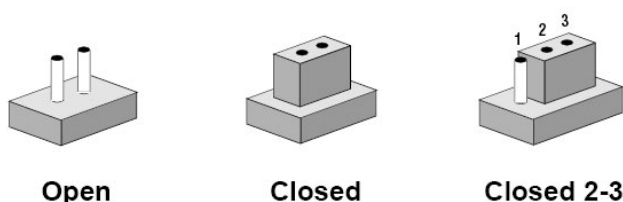
- 3.5"Form Factor (146mm x 101mm)
- AMD LX800 500MHz CPU, Fanless Design
- Highest Performance Per Watt (CPU core power)
- AMD CS5536 Chipset
- Integrated LVDS / VGA Function
- 1 x DDR SODIMM, max. 1 GB
- Integrated 10 / 100 / 1000 Mbps Base T Ethernet
- 1 x Mini PCI, 1 x Type 1/11 CF socket, 4 x COM, 4 x USB2.0
- Watchdog Timer
- Operating Temperature 32 to 40°F(0 to 60°C)

3.3 Jumper and Connector List

It describes the locations of Jumpers and connectors. Be sure to read all the safety precautions before you begin the Jumper and Connector Setup.

3.3.1 Jumpers setting

Please configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electrical switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper, you connect the pins with the clip. To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either pins 1 and 2 or 2 and 3.



The jumper settings are schematically depicted in this manual as follows :



3.3.2 Jumpers List

A pair of needle-nose pliers may be helpful when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes. Generally, you simply need a standard cable to make most connections.

The following tables list the function of each of the board's jumpers.

Label	Function	Note
J5	Clear CMOS	3x1 header, pitch 2.0mm
JP10	TFT Panel Voltage Select	3x1 header, pitch 2.0mm
JP13	RS232/422/485 Selector	3x4 header ,pitch 2.0mm
JP14	RS232/422/485 Selector	2x3 header ,pitch 2.0mm

Table 3.1 Jumpers

3.3.3 Connectors List

The table below lists the function of each of the board's connectors.

Label	Function	Note
CN1	Cooling Fan connector 1	DF-13-3P-5V
CN2	Inverter connector	JST-B7B-PH-KL
CN3	K/B Mouse connector	6-pin Mini Din
CN4	TTL Connector	DF13-40DP-1.25V
CN5	VGA connector	D-sub 15-pin ,female
CN9	Mini-PCI	Mini-PCI Socket
CN10	Cooling Fan connector	DF-13-3P-5V
JP9	Brightness VR	JST-B3B-PH-KL
CON1	RJ-45 Ethernet	RJ-45 LAN connector
J1	DC Input connector	DC Input Jack
J7	SODIMM Connector	SODIMM Connector
P1	Serial port 1 connector	D-sub 9-pin , male
J10	Serial port 2 connector	5x2 header ,pitch 2.54mm
J9	Serial port 3 connector	5x2 header ,pitch 2.54mm
J12	Serial port 4 connector	5x2 header ,pitch 2.54mm
JUSB1	USB Connector 1& 2	Dual USB Connector
J11	USB connector 3 & 4	DF11-8DP-2DSA
J14	Audio connector	DF11-8DP-2DSA
J15	System Function Connector 1	JST-B10B-PH-KL
J16	RTC BAT. Connector	DF-13-2P-3V
J17	Primary IDE connector	22x2 header ,pitch 2.0mm
J18	CF Card connector	Compact Flash Type II socket
J20	5V/12V Power Output	4 pin Power Output
J24	Power Switch connector	ATX CON. 2x2,pitch 4.2mm

Table 3.2 Connectors

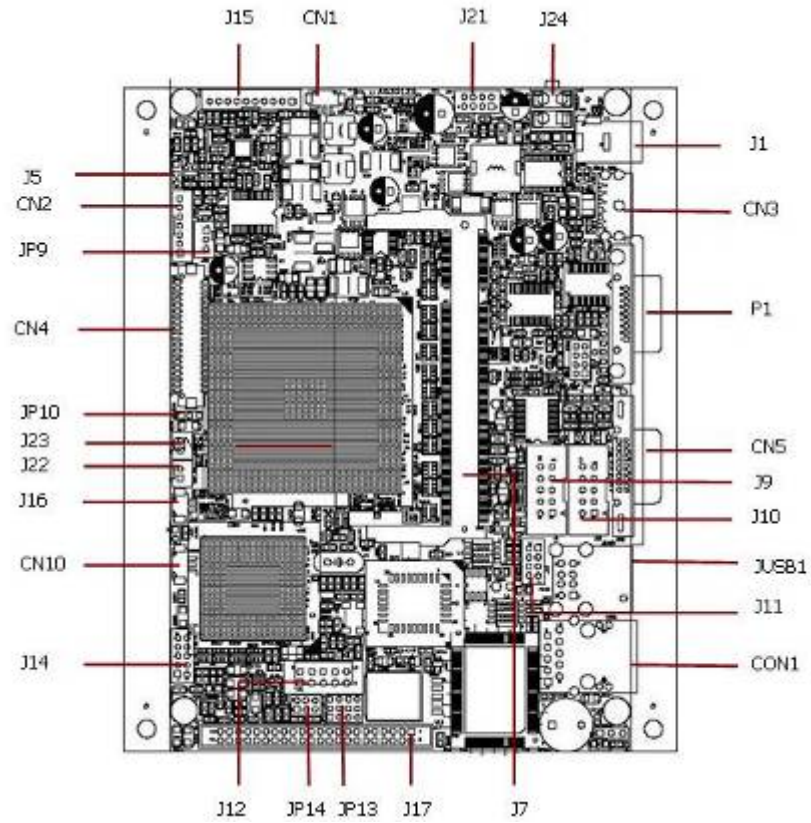


Figure 3-1 Locating Jumpers and Connectors on Panel PC (front side)

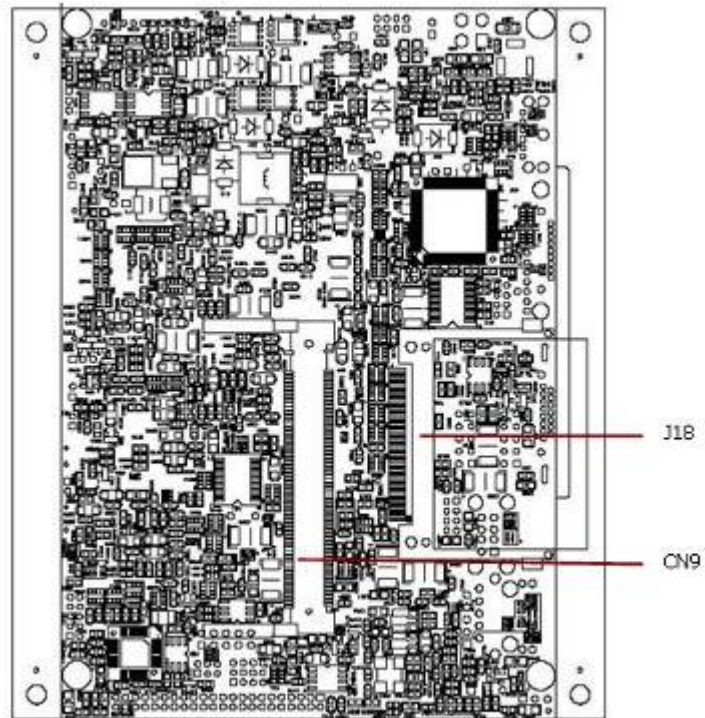
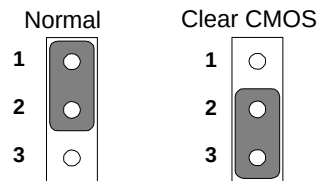


Figure 3-2 Locating Jumpers and Connectors on Panel PC (rear side)

3.4 Clear CMOS (J5)

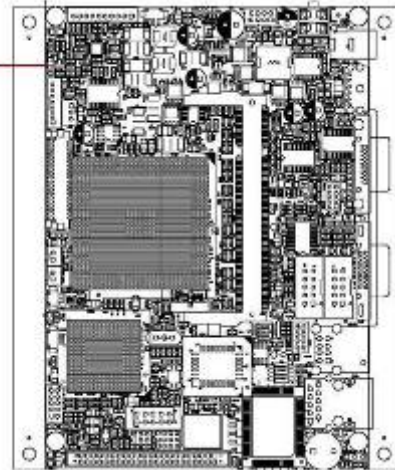
User must make sure the power supply to turn off the power supply before setting Clear CMOS. Users remember to setting jumper back to Normal before turning on the power supply.



Functions	Pin#
Normal	1 Short 2 *
Clear CMOS	2 Short 3

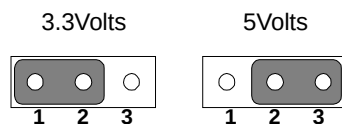
Table 3.3 Clear CMOS (J5)

* Default value



3.5 TTL Voltage Select (JP10)

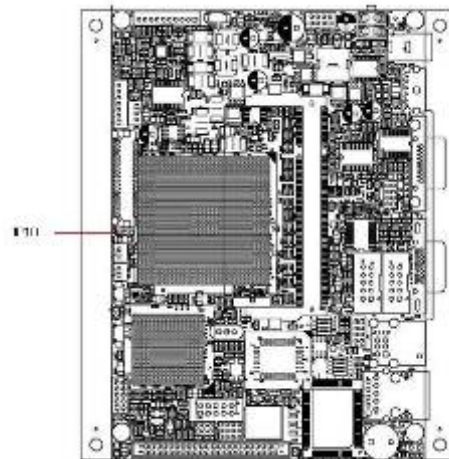
JP10 can be configured to operate in 3.3Volts / 5Volts mode.



Pin#	Functions
1 Short 2	3.3 Volts Selected *
2 Short 3	5 Volts Selected

Table 3.4 LVDS Voltage Select (JP10)

* Default value



3.6 RS 232 / RS 422 / RS 485 Selector (JP13&14)

The jumper can be configured to operate in RS-232/422/485 mode.

- JP13

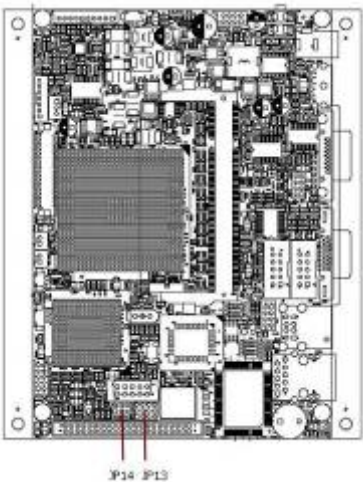
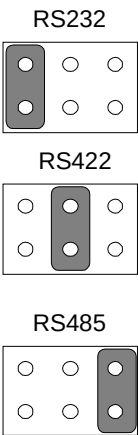


RS232	RS422/485
1-2	2-3 *
4-5	5-6
7-8	8-9
10-11	11-12

* Default value

Table 3.5 RS 232 / 422 / 485 Selector (JP13)

- JP14



Pin#	Function
1-2	RS 232 *
3-4	RS 422
5-6	RS 485

* Default value

Table 3.6 RS 232 / 422 / 485 Selector (JP14)

Ethernet Interface

This chapter offers information on the Ethernet.

Sections include:

- Introduction
- Installation of Ethernet Driver
- Further Information

4.1 Introduction

The Panel PC is equipped with the Realtek RTL8110S-32 LOM Ethernet controller combines a triple-speed IEEE 802.3 compliant Media Access Controller (MAC) with a triple-speed Ethernet transceiver, 32-bit PCI bus controller, and embedded memory. With state-of-the-art DSP technology and mixed-mode signal technology, it offers high-speed transmission over CAT 5 UTP or CAT 3 UTP (10Mbps only) cable. Functions such as Crossover Detection & Auto-Correction, polarity correction, adaptive equalization, cross-talk cancellation, echo cancellation, timing recovery, and error correction are implemented to provide robust transmission and reception capability at high speeds.

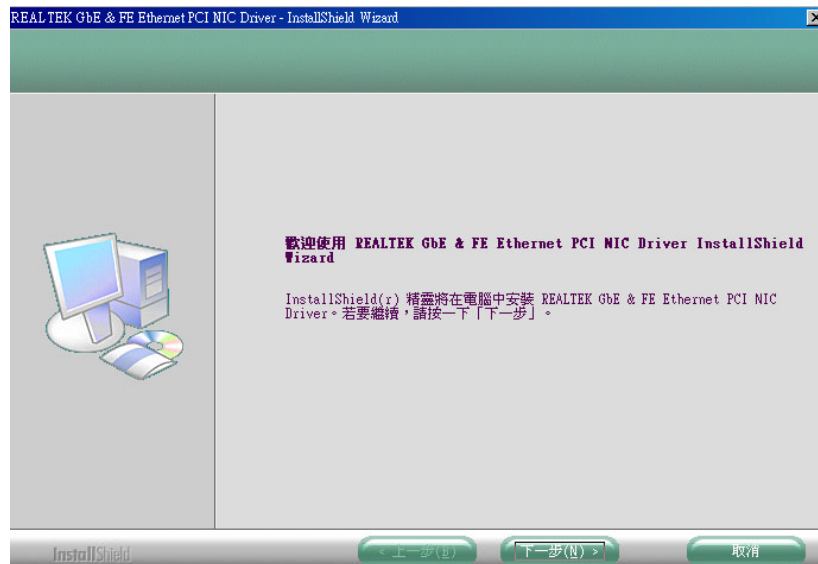
The Ethernet port provides a On-board standard RJ-45 connector. The device supports the PCI 10/100/1000 Mbps Ethernet interface supports for host communications with power management, and is compliant with the IEEE 802.3 specification for 10/100Mbps Ethernet and the IEEE 802.3ab specification for 1000Mbps Ethernet.

4.2 Installation of Ethernet Driver

The Users must make sure which operating system you are using in the Panel PC before installing the Ethernet drivers. Follow the steps below to complete the installation of the Realtek RTL8110S LAN drivers. You will quickly complete the installation.

Setp.1. Insert the CD that comes with the motherboard. Open the file document “**4_rtlsetup-pci(641)**” and click on “Setup.exe” to execute the setup.

Setp.2. Click on **“Next”** to install driver.



Setp.3. Click **“Finish”** and restart the computer for new settings to take effect.



4.3 Further Information

The Realtek web site: <http://www.realtek.com.tw>

Winmate web site: <http://www.winmate.com.tw>

CAPTER 5

VGA Setup

This chapter offers information on the VGA.

Sections include:

- Introduction
- Installation of VGA
- Further Information

5.1 Introduction

The Panel PC offers an on-board PCI flat panel/VGA interface. The specifications and features are described as follows:

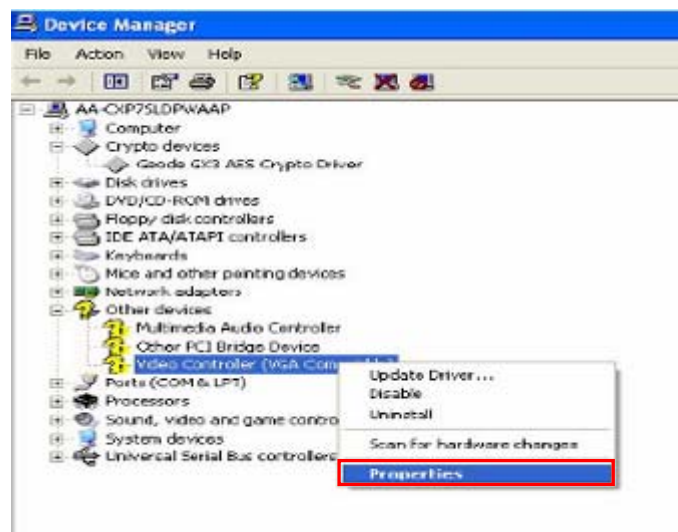
The PPC supports CRT and TFT LCD displays. In addition, it also supports CRT and flat panel display mode simultaneously.

The Panel PC can be set in one of three configurations: on a CRT, on a flat panel display, or on both simultaneously. The system is initially set to simultaneous display mode. The Panel resolution supports up to 1280x1024 @18bpp or 24bpp.

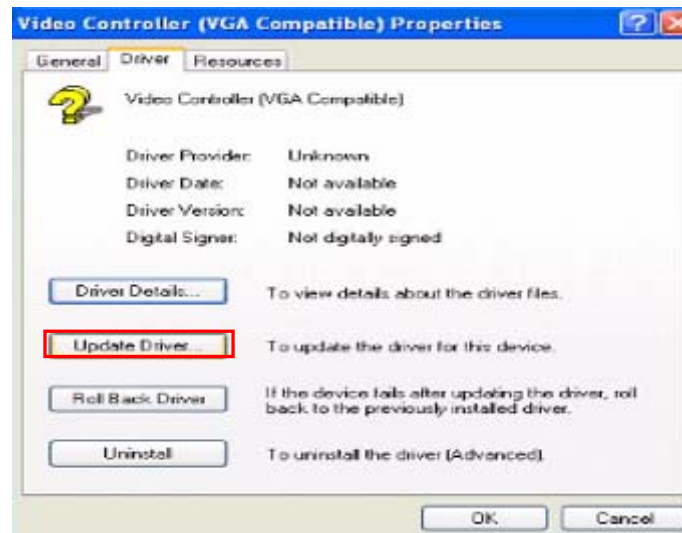
5.2 Installation of VGA Driver

To install the VGA drivers, follow the steps below to proceed with the installation.

Step.1. Open the device manager, choose “VGA Controller” and click on “Properties”.



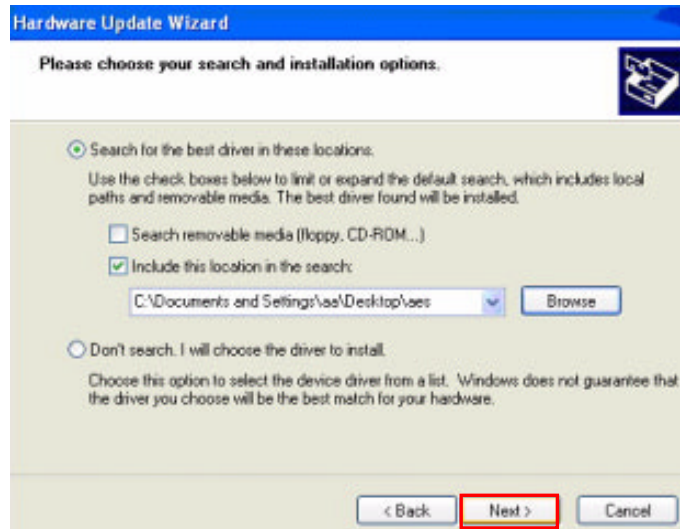
Step.2. Go to Driver page and choose “Update Driver”.



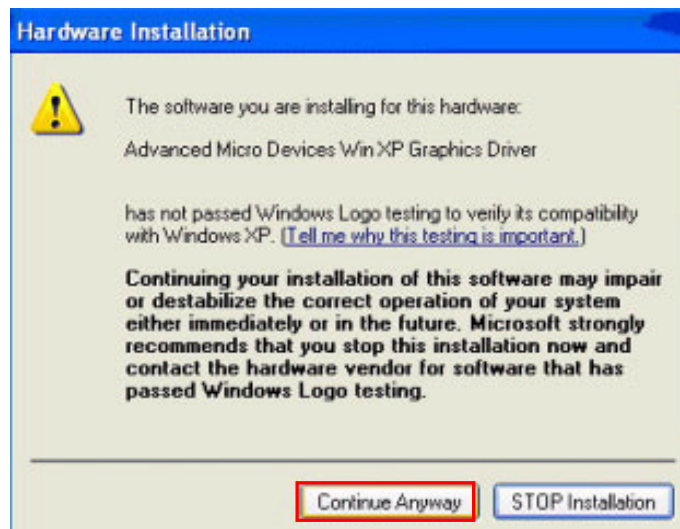
Step.3. Click Install from a list or specific location, and click on “Next”.



Step.4. Click on browse and select target folder, and click to "Next".



Step.5. Click on "Continue Anyway" to go on.



Step.6. Click "Finish" to finish the driver installation.

5.3 Further information

Winmate web site: <http://www.winmate.com.tw>

CAPTER 6

AUDIO Setup

This chapter offers information on the VGA.

Sections include:

- Introduction
- Installation of Audio
- Further Information

6.1 Introduction

The Panel PC is equipped with the ALC203 is a 20-bit DAC and 18-bit ADC full-duplex AC'97 2.3 compatible stereo audio CODEC designed for PC multimedia systems, including host/soft audio, and AMR/CNR based designs.

The ALC203 incorporates proprietary converter technology to achieve a high SNR (greater than 100 dB), sensing logics for device reporting, and a Universal Audio Jack® for improved user convenience. The ALC203 AC'97 CODEC supports multiple CODEC extensions with independent variable sampling rates and built-in 3D effects. The ALC203 CODEC provides two pairs of stereo outputs with independent volume controls, a mono output, multiple stereo and mono inputs, along with flexible mixing, gain, and mute functions to provide a complete integrated audio solution for PCs.

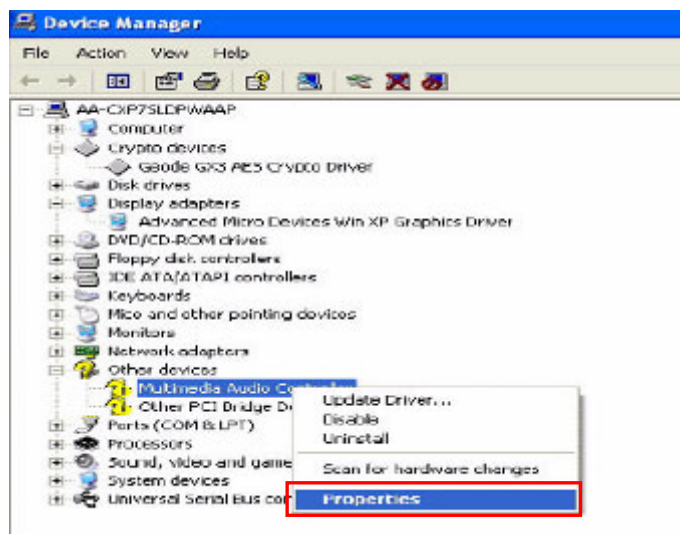
The circuitry of the ALC203 CODEC operates from a 3.3V digital and 3.3V/5V analog power supply with EAPD (External Amplifier Power Down) control for use in notebook and PC applications. The ALC203 integrates a 50mW/20Ohm headset audio amplifier into the CODEC, saving BOM costs. The ALC203 also supports the S/PDIF out function (complies with AC'97 2.3) that offers easy connection of PCs to consumer electronic products, such as AC3 decoders/speakers and mini disk devices.

6.2 Installation of Audio Driver

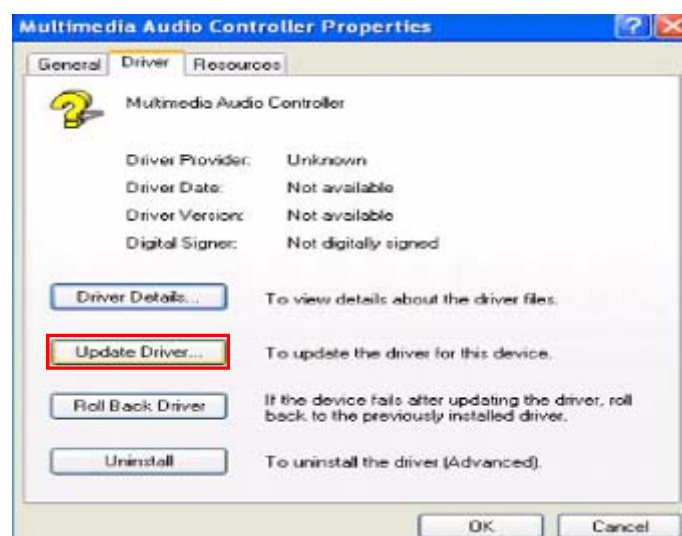
The users must make sure which operating system you are using in the Panel PC before installing the Audio drivers. Follow the steps below to complete the installation of the Realtek ALC203 AC97 Audio drivers. You will quickly complete the installation.

Follow the steps below to install the Realtek AC97 Codec Audio Drivers.

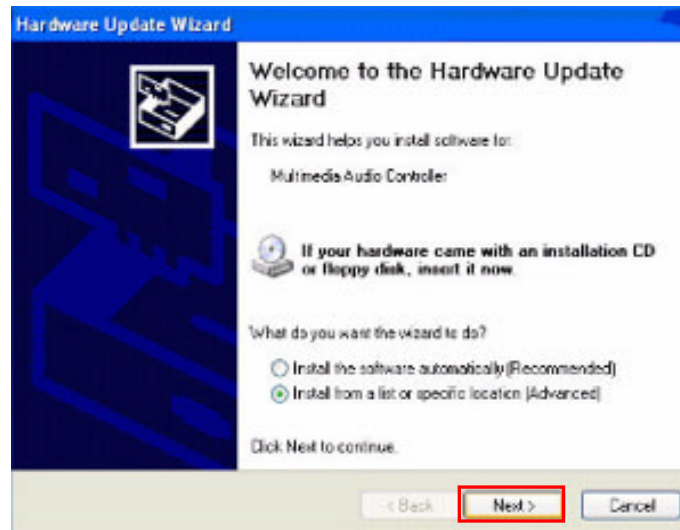
Step.1 Open the device manager, choose “**Audio Controller**” and click on “**Properties**”.



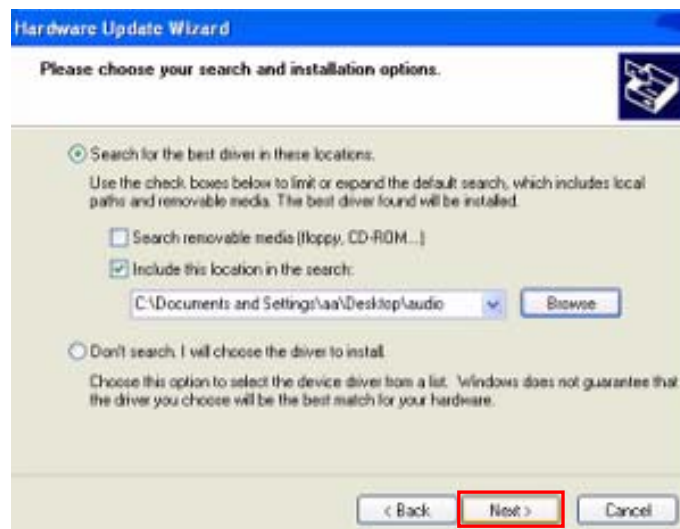
Step.2 Go to Driver page and choose “**Update Driver**”.



Step.3 Click Install from a list or specific location, and click on “Next”.



Step.4 Click on browse and select target folder, and click to “Next”.



Step.5 Click on “**Continue Anyway**” to go on.



Step.5 Click “**Finish**” to finish the driver installation.

6.3 Further Information

The Realtek web site: <http://www.realtek.com.tw>

Winmate web site: <http://www.winmate.com.tw>

CAPTER 7

Award BIOS Setup

This chapter describes how to set BIOS configuration.

Chapter 7 Award BIOS Setup

AwardBIOS™ has a built-in setup program that allows users to modify the basic system configuration. The information is stored in battery-backed Flash so that it retains the setup information even if the system power is turned off.

Note:

Values for the various setup items that appear on your own screen (including default values) may not be the same as the values shown on the screen figures in this chapter. This is because the BIOS is revised and updated from time to time. If in doubt, check Winmate website for the latest BIOS versions and related information.

7.1 Starting Setup

The system BIOS is managing and executing a variety of hardware related functions in the system, including:

- System date and time
- Hardware execution sequence
- Power management function
- Allocation of system resources

Enter BIOS

To enter the BIOS (Basic Input/Output System) utility, follow these steps:

- Step.1 Power on the system and the system will perform its POST (Power-On Self Test) routine checks.
- Step.2 Press <Del> key immediately, or at the following message:
Press Del to enter SETUP, or simultaneously press <Ctrl> <Alt> <Esc> keys.
- Step.3 As you enter the BIOS program, CMOS Setup Utility will prompt you the Main Menu, as shown in the next section.

7.2 Award BIOS Setup

Once you enter the Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



Figure 7-1 BIOS Setup Main Menu

The BISO Setup Main Menu screen is shown above.

Note that a brief description of each highlighted selection appears at the bottom of the screen.

- Setup Items
The main menu includes the following main setup categories.
- Standard CMOS Features
This menu displays the basic information about your system.
- Advanced BIOS Features
Use this menu to set the advanced features available on your system.
- Advanced Chipset Features
Use this menu to change the values in the chipset registers and optimize your system's performance.
- Integrated Peripherals
Use this menu to specify your setting for integrated peripherals.
- Power Management Setup
Use this menu to specify your setting for power management.
- PnP/PCI Configurations
This option configures how PnP (Plug and Play) and **PCI expansion cards operate in your system.**
- PC Health Status
This entry shows the current system temperature and voltage.
- Load Fail-Safe Defaults

Use this menu to install fail-safe defaults for all appropriate items in the setup utility.

- **Load Optimized Defaults**
Use this menu to install optimized defaults for all appropriate items in the setup utility.
- **Set Supervisor/User Password**
Use this menu to change, set, or disable supervisor/user password. It allows you to limit access to the system and Setup, or only to Setup.
- **Save & Exit Setup**
Save the changes that you have made in the Setup Utility and exit the Setup Utility.
- **Exit Without Saving**
Abandon all changes that you have made in the Setup Utility and exit the Setup Utility.

7.3 Standard CMOS Features

The Standard CMOS Features Setup allows users to configure system components such as date, time, hard disk drive, floppy drive and display. Use the arrow keys to highlight the item and then use the <Page Up> or <Page Down> keys to select the value you want in each item.



Figure 7-2 Standard CMOS Features

The standard CMOS Features screen is shown above. Follow each item:

- **Date (mm : dd : yy)**
Set the system date. Note that if you are running a Windows OS, this item are automatically updated whenever you make changes to the Windows Date.
- **Time (hh : mm : ss)**
Set the system time. The time is converted based on the 24-hour military-time clock. For example, 5:00:00 p.m. is 17:00:00.
- **IDE Primary Mater/Salve**
Press <Enter> to enter the sub-menu to detailed options.
- **Video**
This item defines the video mode of the system. Leave this item at the default value.
The choice: "EGA/VGA*", "CGA 40", "CGA 80", or "MONO".
* Default value
- **Halt On**
This item defines the operation of the system POST (Power-On Self Test) routine. You can use this item to select which situation you want the BIOS to stop the POST process and notify you.
The choice: "All errors", "No Errors" or, "All, but keyboard*".
* Default value

➤ **Base Memory/Extended Memory/Total Memory**

These items are automatically detected by the system at start up time. These are display-only fields. You can not make change to these fields.

.....

Follow steps as IDE adapter below:

➤ IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

IDE HDD Auto-Detection

Press <Enter> to auto-detect HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

➤ **IDE Primary Master/Slave**

Selecting 'Manual' lets you set the remaining fields on this screen and select the type of fixed disk.

The choice: None, Auto, or Manual

Choose the access mode for this hard disk.

- The choice: "CHS", "LBA", "Large", or "Auto".

Capacity

Note that the disk drive capacity (approx.) is usually slightly greater than the size of a formatted disk given by a disk checking program.

Cylinder

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

Head

Set the number of read/write heads

- Min = 0, Max = 255

Precomp

Warning: Setting a value of 65535 means no hard disk.

- Min = 0, Max =65535

Landing Zone

Set the Landing Zone size.

- Min = 0, Max = 65535

Sector

Number of sector per-track.

- Min = 0, Max = 255

[illegible]

7.4 Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.



Figure 7-3 Advanced BIOS Features

- **Removable Device Priority**
You can choose the priority of your Removable Device
 - The choice: LS120, USB-FDD0, USB-FDD1, USB-ZIP0, USB-ZIP1
- **Hard-Disk Boot Priority**
You can choose the priority of your Hard Disk
 - The choice: Pri.Master, Pri.Slave, USBHDD0, USBHDD1, USBHDD2, Bootable Add-in Cards
- **CD-ROM Boot Priority**
You can choose the priority of your Removable Device
 - The choice: Pri.Master, Pri.Slave, USB-CDROM0
- **Virus Warning**
Allow you to choose the Virus Warning feature for IDE Hard Disk boot sector protection. Enable this item to prevent someone from writing data into this area.
 - The choice: Enabled or Disabled.
- **CPU Internal Cache**
All processors that can be installed in this motherboard use internal level of L1 cache memory to improve performance. Leave this item at the default value for better performance.
 - The choice: Enabled or Disabled.

- **Quick Power On Self Test**
Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to this item after you are confident that your system hardware is operating smoothly.
 - The choice: Enabled or Disabled.
- **First/Second/Third Boot Device**
Use these items to select the priority and order of the devices that your system searches for an operating system at start-up time.
 - The choice: Removable, Hard Disk, CDROM, LAN, Disable
- **Boot Other Device**
If you enable this item, the system searches all other possible locations for and operating system if it fails to find one in the devices specified under the First, Second and the Third boot devices.
 - The choice: Enabled or Disabled.
- **Boot Up NumLock Status**
This item defines if the keyboard NumLock key is active when your system is started.
 - The choice: Enabled or Disabled.
- **Security Option**
If you have installed password protection, this item defines if the password is required at system start up, or if it is only required with a user tries to enter the Setup Utility.
 - The choice: Enabled or Disabled.
- **Small Logo (EPA) Show**
This item allows you to enable or disable the EPA Logo
 - The choice: Enabled or Disabled.

7.5 Advanced Chipset Features

These items define critical timing parameters of the mainboard. You should leave the items at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal error or recurring instability into your system.

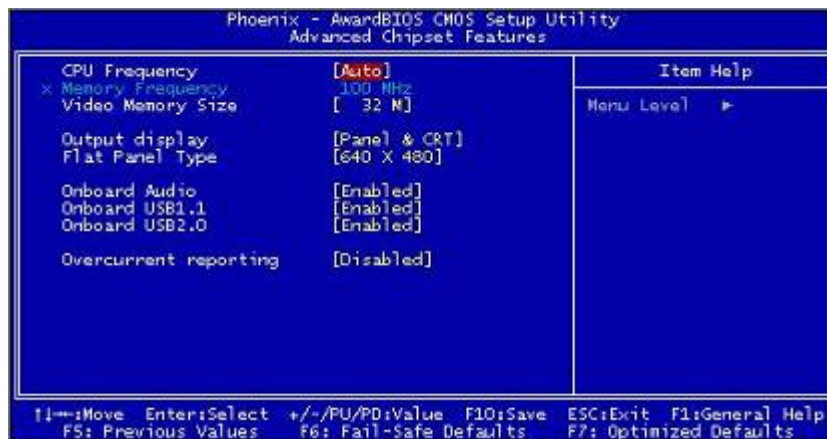


Figure 7-4 Advanced Chipset Features

➤ CPU Frequency

This item allows you to select CPU and Memory Frequency. If this item has been set as Auto, the Memory Frequency will be set to sequent with CPU Frequency. When this item is not selected as Auto, Memory Frequency will be able for selection.

- The CPU Frequency choice: Auto, 200MHz, 333MHz, 400MHz, 433MHz, or 500MHz.
- The Memory Frequency choice: 100MHz, 133MHz, 166MHz, or 200MHz.

➤ Video Memory Size

This item allows you select Video Memory Size

- The choice: 16M, 32M, 64M, 128M, or 256M.

➤ **Output Display**

This item allows you select Output Display

- The choice: Flat Panel, CRT, or Panel & CRT.

➤ **Flat Panel Type**

This item allows you select the resolution of the Display.

- Resolution
 - 640 x 480
 - 800 x 600*
 - 1024 x 768
 - 1280 x 1024

* Default value 800 x 600

➤ **Onboard Audio**

This item allows you to control the Onboard Audio

- The choice: Enabled or Disabled.

➤ **Overcurrent Reporting**

This item allows you to select Overcurrent Reporting

- The choice: Enabled or Disabled.

7.6 Integrated Peripherals



Figure 7-5 Integrated Peripherals

- **On-Chip IDE Channel 1**
The chipset contains a PCI IDE interface with support IDE channel. By default to activate the primary/secondary IDE interface.
- **Master/Slave Drive PIO Mode**
The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Mode 0 through 4 provides successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
 - The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, or Mode 4.
- **Onboard Serial Port 1/2/3/4**
This option is used to assign the I/O address and Interrupt Request (IRQ) for the onboard Serial Port.
 - The choice: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, 4E8/IRQ5, 4E8/IRQ7.

7.7 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively saving energy while operating in a manner consistent with your own style of computer use.

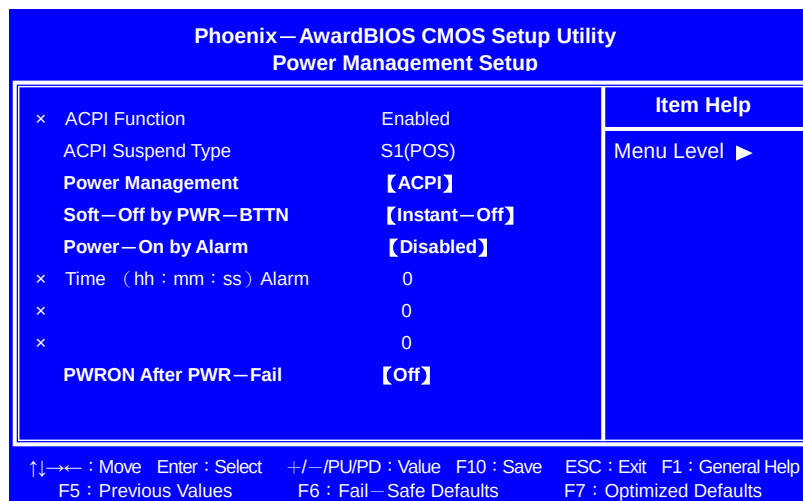


Figure 7-6 Power Management Setup

➤ ACPI Function

This item defines the ACPI(Advanced Configuration and Power Management) feature that makes hardware status information available to the operating system, enable a PC to turn its peripherals on or off for improving the power management, and allows a PC turned on or off by external devices, so that a mouse or keyboard can wake up it.

➤ Power Management

Supports power saving modes including Disable/APM/ACPI modes

- The choice: “Disable”, “APM”, “ACPI*”

* Default value

➤ Soft-Off by PWR-BTTN

Under ACPI you can create a software power down. In a software power down, the system can be resumed by Wake-Up Alarm. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 seconds, then you have to hold the power button down for 4 seconds to cause a software power down.

- The choice: “Delay 4 Sec” or “Instant-Off*”.

* Default value

➤ **Power-On by Alarm**

When set to 'Enabled', the following three fields become available and you can set the date, hour, and minute to turn on your system.

- The choice: "Enabled" or "Disabled*".

* Default value

Time (hh : mm : ss) of Alarm

This item selects the alarm Time.

[hh] : key in a DEC number; Min = 0, Max = 23.

[mm] : key in a DEC number; Min = 0, Max = 59.

[ss] : key in a DEC number; Min = 0, Max = 59.

➤ **PWRON After PWR-Fail**

The power management default in the BIOS is to NOT power-up automatically when power is restored. This is to protect against possible power-surges, and rolling brownouts or blackouts. Instead, an administrator must manually power-up the appliance.

If you feel you must need power-up automatically, then you need to choose "On".

- The choice: "Off*", "On" and "Former-Sts".

* Default value

7.8 PnP/PCI Configuration Setup

➤ **PNP OS Installed**

Select 'Yes' if you are using a Plug and Play capable operating system. Select 'No' if you need the BIOS to configure non-boot devices.

7.9 PC Health Status

This section shows the status of Temperature,& System Voltage status



Figure 7-7 PC Health Status

➤ **Shutdown Temperature**

This item allows you to select the shutdown temperature. The system will automatically shutdown while the CPU temperature has reach to the value you have set.

- The choice: 60C/140F, 65C/149F, 70C/158F, or Disabled.

The following items provide you with information about the system's current operating status. You can not make changes to one of them.

- Current CPU temperature
- VCCP
- Vmem
- +5V
- +12V

,

7.10 Load Fail-Safe Defaults

When you press <Enter> on this item, you will get confirmation dialog box with a message similar to:

- Load Fail-Safe Defaults (Y/N)? N
- Pressing 'Y' loads the BIOS default values for the most stable, minimal performance system operations.



Load Fail-Safe Defaults (Y/N)? N

7.11 Load Optimized Defaults

When you press <Enter> on this item, you will get confirmation dialog box with a message similar to:

- Load Optimized Defaults (Y/N)? N
- Pressing 'Y' loads the default values that are factory-set for optimal performance system operation.



Load Optimized Defaults (Y/N)? N

7.12 Supervisor / User Password Setting



Figure 7-8 Supervisor / User Password Setting

Steps to set supervisor/user password are described as follows:

➤ **New password setting:**

1. While pressing <Enter> to set a password, a dialog box appears to ask you enter a password.
2. Key in a new password. The password can not exceed eight characters.

Please Enter Your Password

3. System will request you to confirm the new password again.

Please Confirm Your Password

4. When completed, new code takes effect.

➤ **No Password Setting:**

If you want to disable the password, just <Enter> as a password input is requested.

➤ **If you forget password:**

If you forget the password, the only way to access the system is to clear the CMOS memory. You may remove the battery from motherboard and put it back to clear the setting.

7.13 Save & Exit Setup



Figure 7-9: Save and exit setup screen

- Pressing <Enter> on this item asks for confirmation:
 - Save to CMOS and Exit (Y/N)? Y
 - Press 'Y' stores the selections made in the menus of CMOS – a special section of memory that recorded in after you turn your system off. The next time you turn on your computer, the BIOS configures your system according to the Setup selections recorded in he CMOS memory of the chipset. After saving the values the system is restarted again.

7.14 Exit Without Saving



Figure 7-10: Exit without Saving setup screen

- Press <Enter> on this item asks for confirmation:
 - Quit Without Saving (Y/N)? Y
 - This allows you to exit from Setup without storing in CMOS any change. The previous selections remain in effect. This exits from Setup utility and restarts your computer.

CAP T E R 8

Touch Screen

This chapter offers information on the Ethernet.

Sections include:

- Introduction
- Installation of Drive for Elo AccuTouch TouchScreen
- Installation of Drive for Premier Touch TouchScreen

Chapter 8 Touchscreen

8.1 Introduction

The PPC supports two kinds of Touch Panel Solutions: Elo AccuTouch touchscreen or Premier Touch system. Both the two touchscreen system consists of a touchscreen and an electronic touchscreen controller.

The Elo AccuTouch and Premier touchscreen is based on patented resistive technology. The touchscreen may be a flat, spherical, or cylindrical. It is installed over the face of the display. Since its shape matches of the display face, the touchscreen has excellent clarity and minimal parallax.

8.2 Installation of Drive for ELO AccuTouch

Elo AccuTouch driver software provides a consistent software interface among all Elo AccuTouch touchscreens and controllers.

Go to www.elotouch.com/Support/dnld.asp for a complete list of available drivers.

For Driver Installation, please install the “Elo TouchSystem TouchTools CD” for Windows XP, Windows 2000, Windows Me, Windows 98, Windows 95, Windows NT, Windows CE 2.x, 3.0, 4.x, Windows XP Embedded, Windows 3.1, DOS, OS/2 Warp, and Apple Macintosh. Just follow the step by step to install the driver.



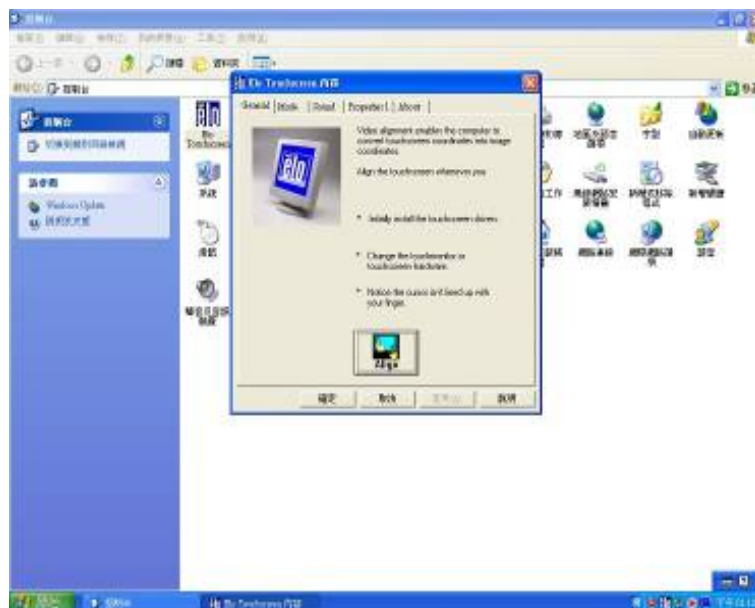
8.2.1 Configuration Utility

After finishing the installation, please follow the steps to test the configuration utility.

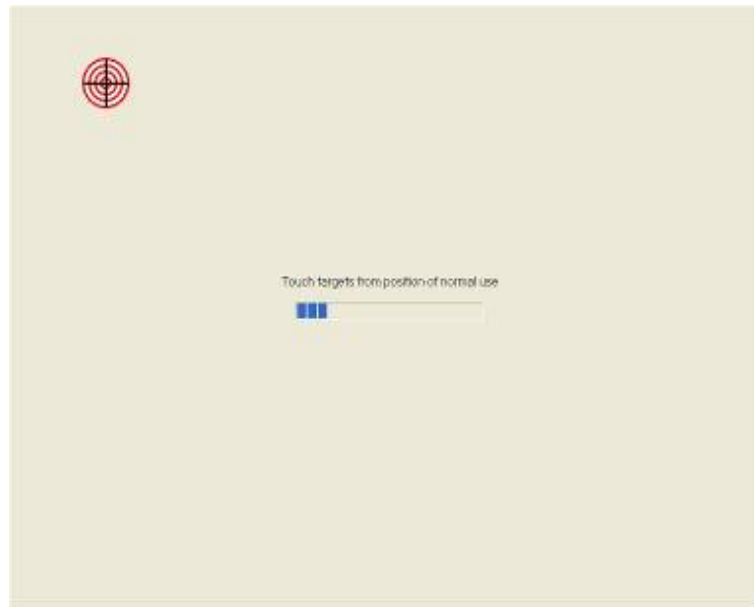
Step.1 Enter “My Computer”, click the “Elo touchscreen” shortcut function.



Step.2 Click “Align” function key to go to next step.



Step.3 Correct 4 point locations on screen with the Panel PC. Screen display as follows.



Step.4 Touch the "yes" function if the cursor follows your finger and finish the utility test.



8.3 The Premier Touch Driver Installation

TouchKit is the Premier Touch software, which contains drivers of the touch panel controllers for the specified communication connectors, RS232, PS/2 and USB, and the other two utilities.

The two utilities are as follows:

- Touch Tray support
This is utility for emulating the right and left button of mouse through controlling touch panel. Users can toggle between right or left mouse buttons by this utility.
- Configuration support
The calibration and draw test of touch panel are done by this utility. Besides, users can add or remove for new RS-232 or PS/2 touch panel devices.

Follow these steps to install TouchKit.

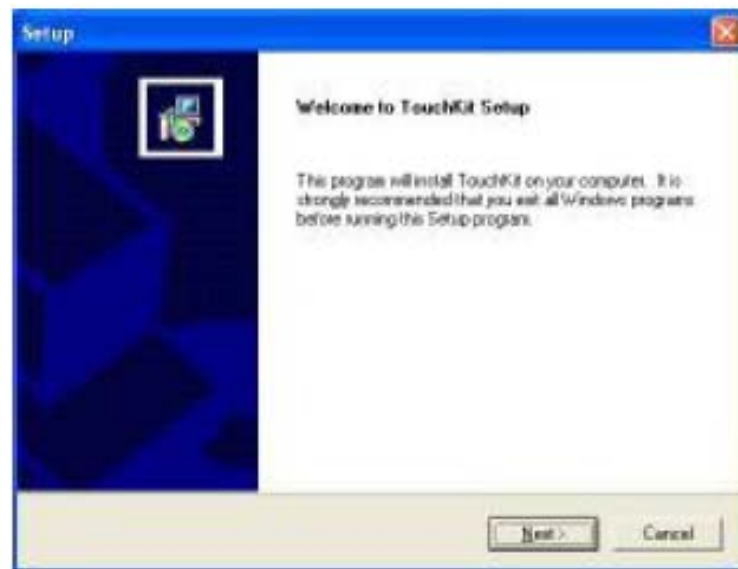
Step.1 Put the TouchKit CD to CD-ROM.

Step.2 Open the Win2000_XP directory.

Step.3 Double click the Setup.exe, then windows starts to run the installation program.

Notice that do not plug the USB controller on the system before the installation has been finished.

Step.4 Just click Next to continue installation.



Step.5 Following the step by step to finish the driver installation.

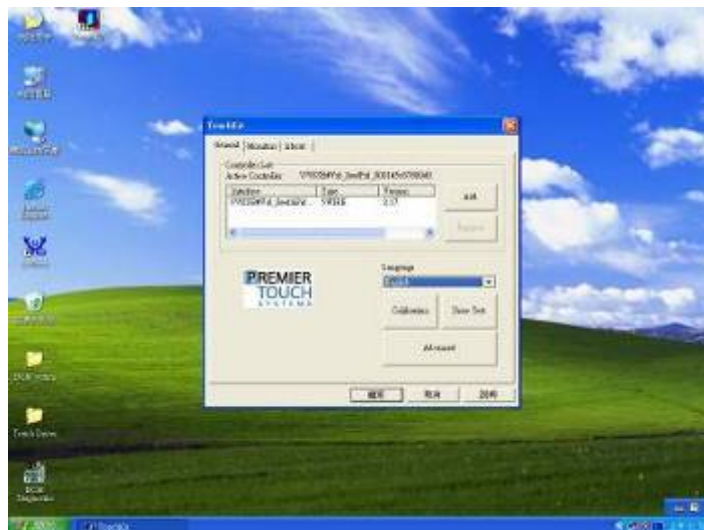
8.3.1 Configuration Utility

After finishing the installation, please follow the steps to test the configuration utility.

Step.1 Click the **“TouchKit”** shortcut function in the desktop.



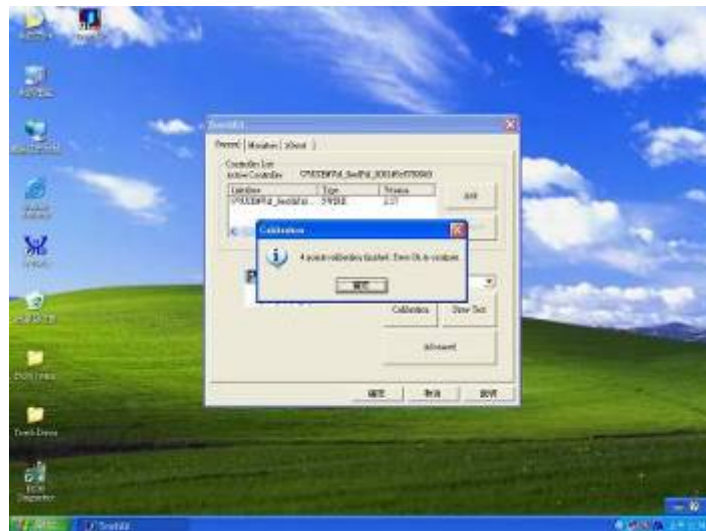
Step.2 Enter **“General”** function and choose the language you need. Then go to next step.



Step.3 Correct 4 point locations on screen with the Panel. Screen display as follows



Step.4 Play “Yes” to continue if 4 points calibration test is fine and finish the test.



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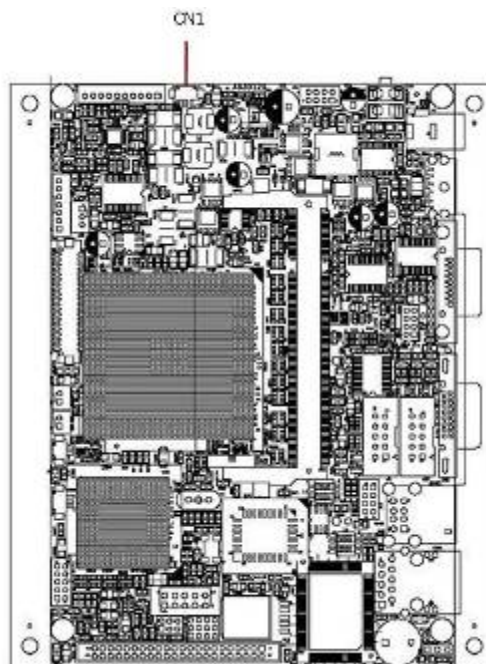
Pin Assignments

APPENDIX

A

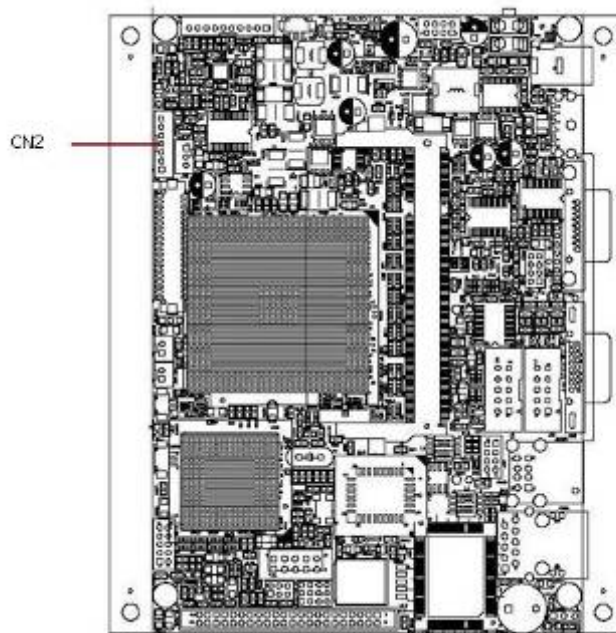
A.1 Cooling Fan connector 1 (CN1)

Pin#	Function
1	GND (black)
2	FAN Voltage (red)
3	Speed Signal from fan (yellow)



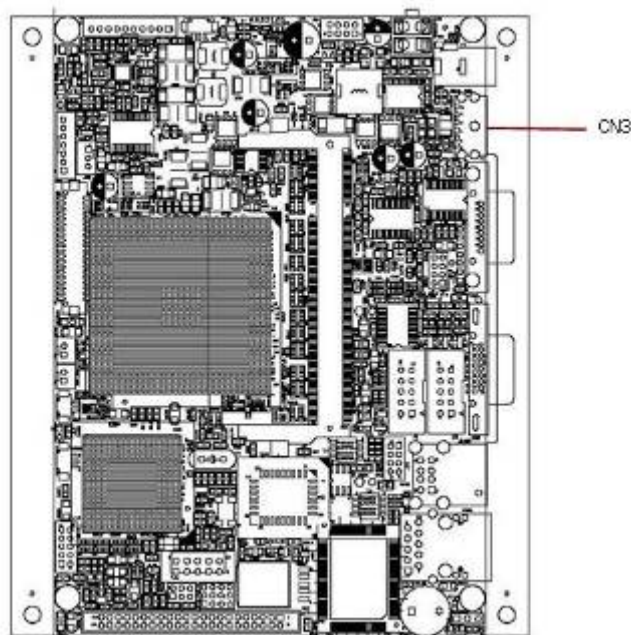
A.2 Inverter connector (CN2)

Pin#	Functions
1	+12Volts
2	+12Volts
3	+12Volts
4	Ground
5	Brightness Control
6	Ground
7	On/Off



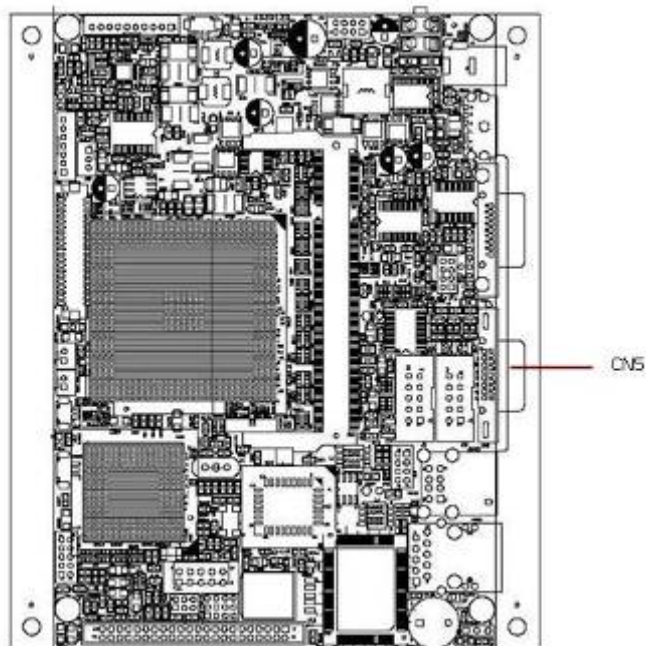
A.3 K/B Mouse connector (CN3)

Pin#	Functions
6	Mouse Clock
5	KBD Clock
4	Power +5Volts
3	Ground
2	Mouse Data
1	KBD Data

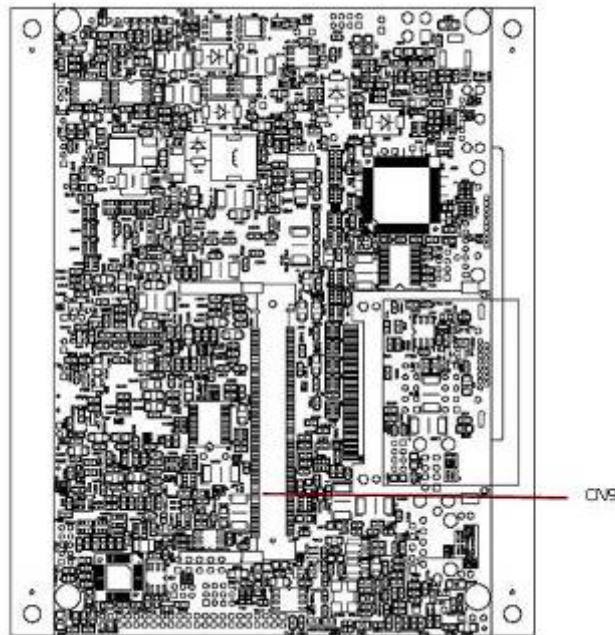


A.4 VGA Connector (CN5)

Pin#	Functions
1	Red output
2	Green output
3	Blue output
4	MS2
5	Ground
6	Red Ground
7	Green Ground
8	Blue Ground
9	N.C.
10	Ground
11	MS0
12	MS1
13	H Sync
14	V Sync
15	MS3

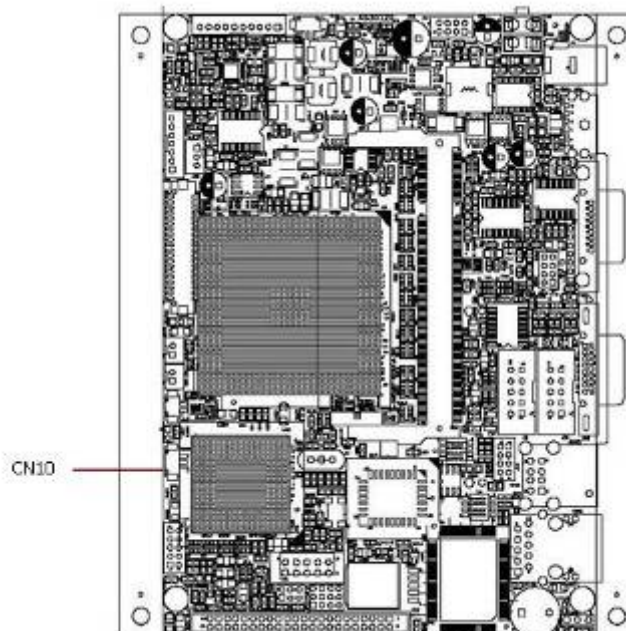


A.5 Mini PCI Socket (CN9)



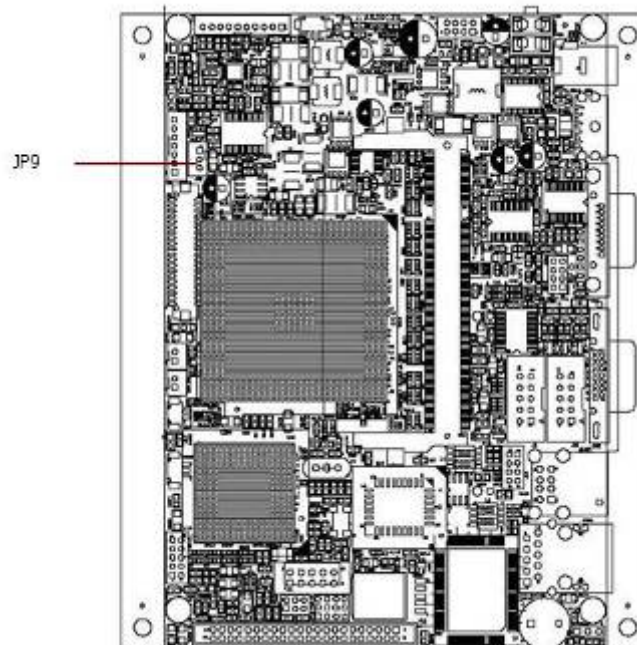
A.6 Cooling Fan connector2 (CN10)

Pin#	Functions
1	Fan Power 5Volts
2	Fan Power Ground
3	RPM output

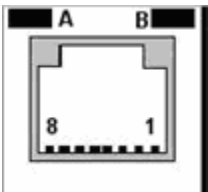


A.7 Brightness VR (JP9)

Pin#	Functions
1	VR 1
2	VR Out
3	VR 2

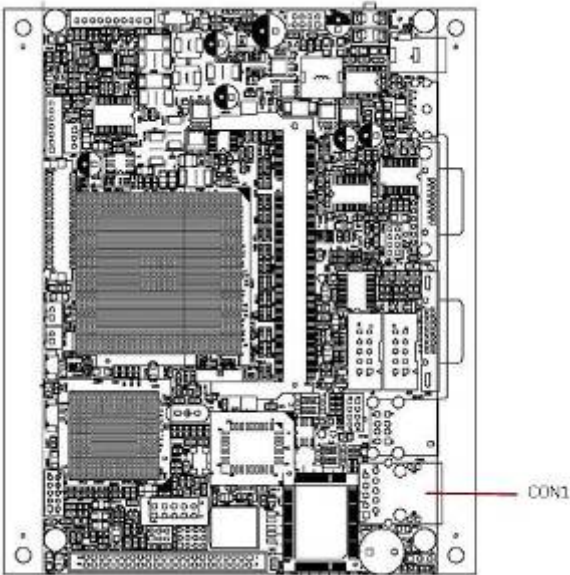


A.8 RJ 45 Ethernet (CON1)

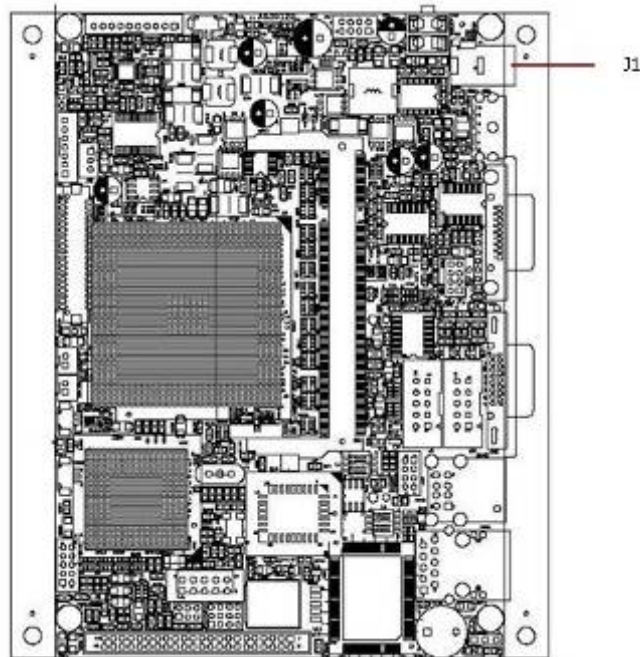


Pin#	Functions
1	TX +
2	TX -
3	RX +
4	PE
5	PE
6	RX -
7	PE
8	PE

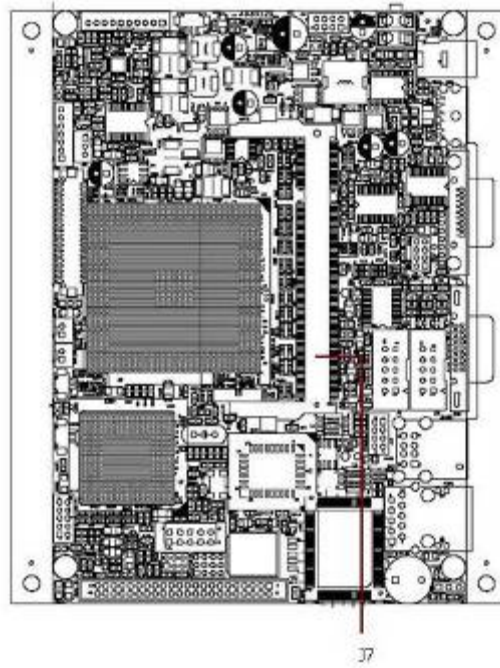
LCD	Signal	Color
A	Link	Green
B	Activity	Orange



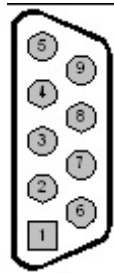
A.9 DC Input Connector (J1)



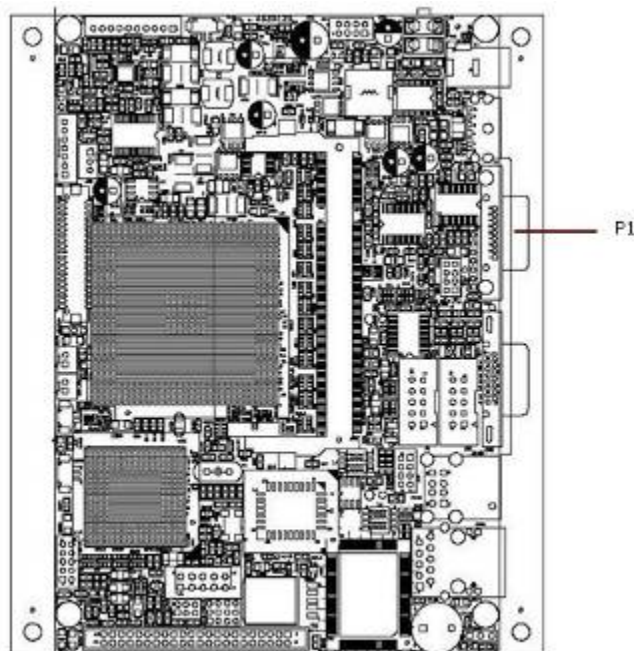
A.10 SODIMM Connector (J7)



A.11 Serial port 1 connector (P1)

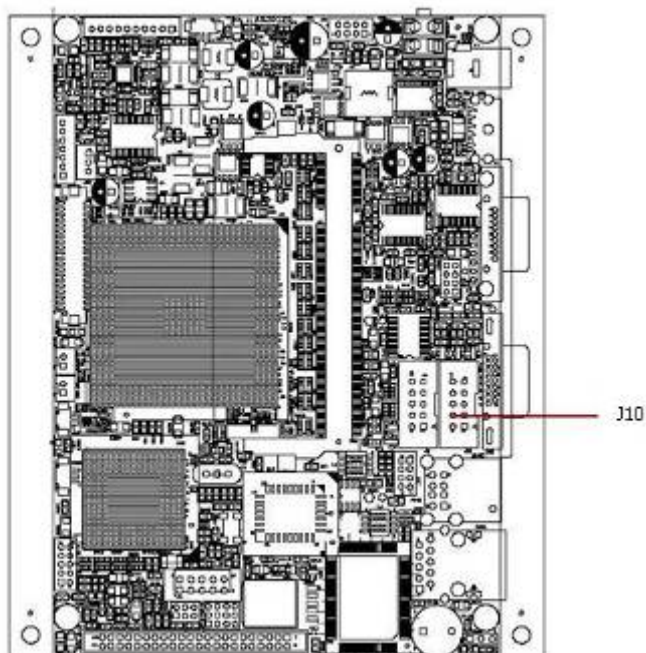


Pin#	Functions
1	CD#
2	RX
3	TX
4	DTR
5	GROUND
6	DSR
7	RTS
8	CTS
9	RI



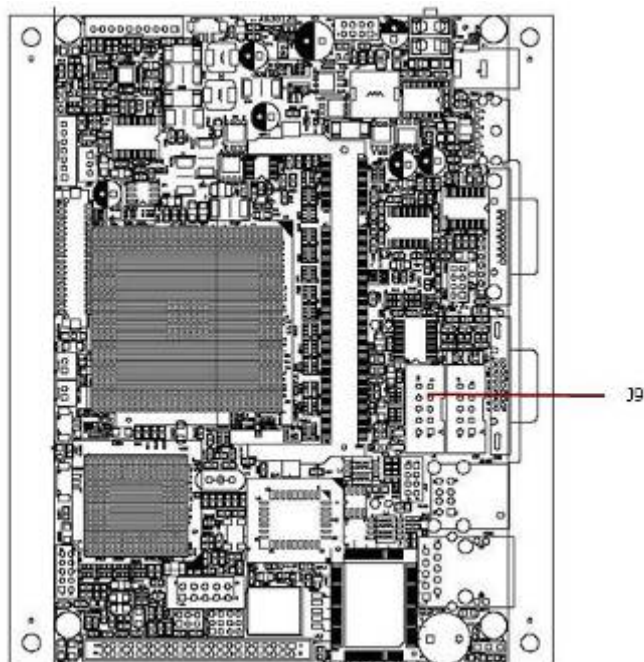
A.12 Serial port 2 connector (J10)

Pin#	Functions
1	CD#
3	RX
5	TX
7	DTR
9	GROUND
2	DSR
4	RTS
6	CTS
8	RI
10	N.C.



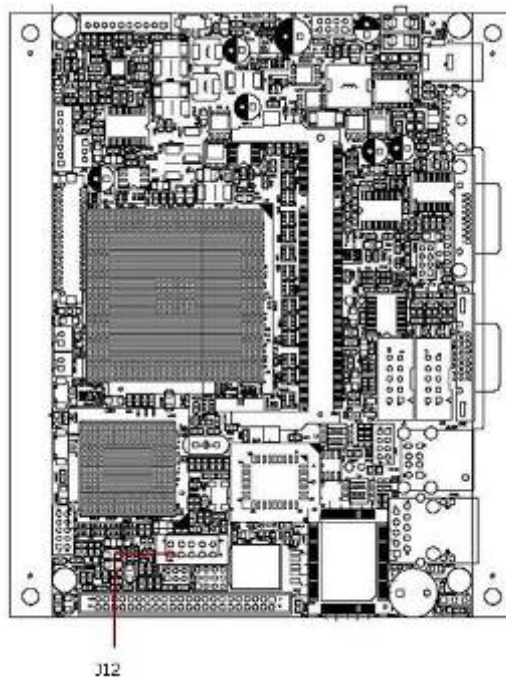
A.13 Serial port 3 connector (J9)

Pin#	Functions
1	CD#
3	RX
5	TX
7	DTR
9	GROUND
2	DSR
4	RTS
6	CTS
8	RI
10	POWER +5V



A.14 Serial port 4 connector (J12)

Pin#	Functions
1	CD#
3	RX
5	TX
7	DTR
9	GROUND
2	DSR
4	RTS
6	CTS
8	RI
10	POWER +5V

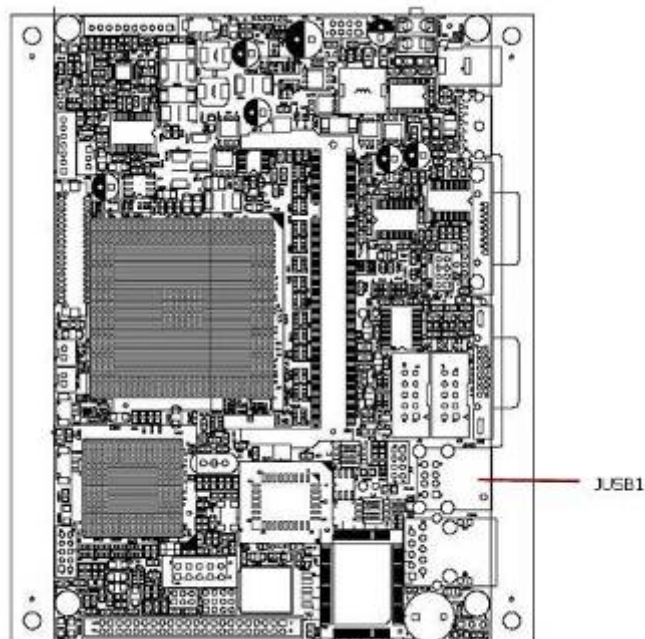


A.15 USB Connector 1&2 (JUSB1&2)



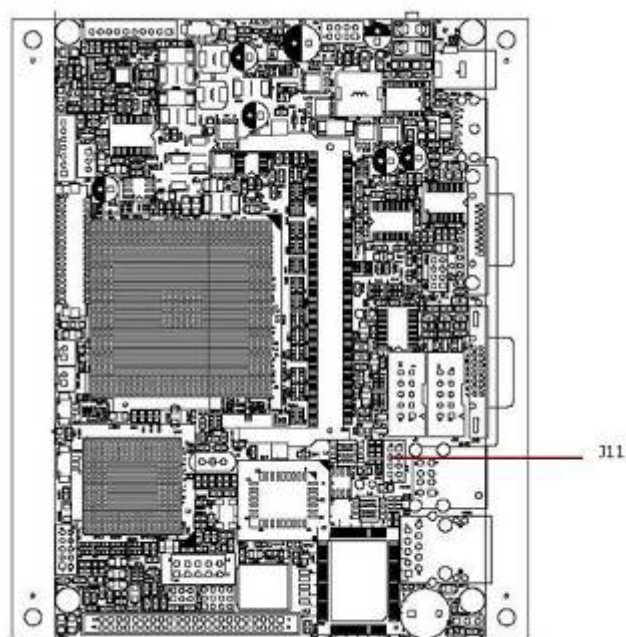
Pin#	Signal
1	USB VCC1
2	USB1-
3	USB1+
4	GND

Pin#	Signal
1	USB VCC2
2	USB2-
3	USB2+
4	GND



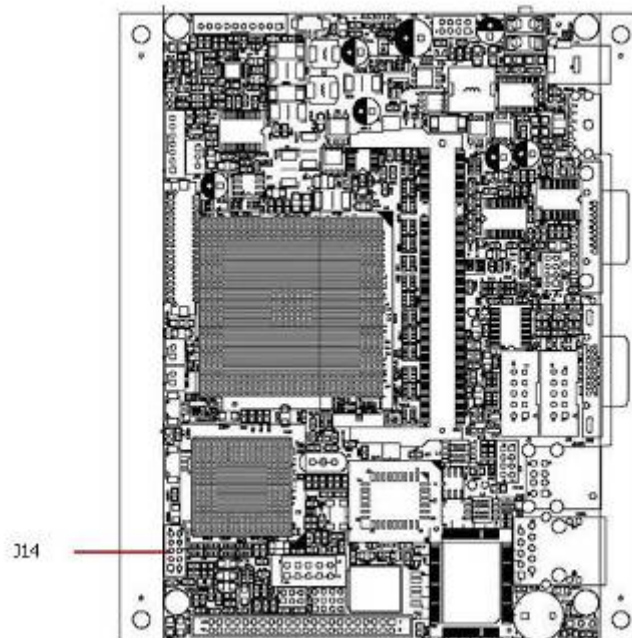
A.16 USB Connector 3&4 (J11)

Pin#	Functions
1	USB # 3 +5V
3	Data3 -
5	Data3 +
7	USB # 3 Ground
8	USB #4 Ground
6	Data4 +
4	Data4 -
2	USB # 4 +5V



A.17 Audio Connector (J14)

Pin#	Functions
1	Line out R
3	Gnd
5	Line_in R input
7	Mic. Input
9	N.C.
2	Line out L
4	Gnd
6	Line_in L input
8	Mic.Vref
10	N.C.



A.18 RTC BAT. Connector (J16)

Pin#	Functions
1	Battery +3.0Volts
2	GND

